

# DX News

•Serving DX'ers since 1933•

Volume 59, No. 27 - July 6, 1992 (ISSN 0737-1659)



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### From the publisher ...

After countless hours of exhausting proofing by many volunteers, the *NRC Domestic Log* is close to going to the printer, and Ken Chatterton is taking advance orders – at the same price as last year's log. See inside for details.

**They joined ...** Bruce Reynolds, San Jose, CA; C. Barton Cronin, Edmonds, WA; Carl Mann, Omaha, NE (all three are former members; welcome back, guys!); Rob Brazell, Topeka, KS; John C. Rugee, Sacramento, CA; Karl Guth, Hiles, WI; Frank Widmann WA2VYA, Colts Neck, NJ.

**DXChange ...** For sale: ICF-SW 20, great sensitivity on AM, fair/good on SW and FM: \$40 + UPS. Jeff Lewis - 1028 W. 41 Place, #3 - Kansas City, MO 64111-4090 or (816) 931-5632.

**Publications ...** Grove Enterprises has brought out its International Callsign Directory, for short-wave and scanner listeners, which includes a world-wide list of NDB's. It sells for \$25.95 plus \$4 UPS shipping from Grove Enterprises - P. O. Box 98 - Brassstown, NC 28902-0098, or (800) 438-8155 ... ASA - P. O. Box 30162 - Charlotte, NC 28230 sent us an antenna and accessory catalog for ham and other HF applications. Send them 52¢ in postage for your copy; mention the NRC when you write.

### Remaining DXN Schedule, Volume 59:

#	Deadline	Pub. Date
28.	July 24	Aug. 3
29.	Aug. 21	Aug. 31
30.	Sept. 18	Sept. 28

### DXN Schedule, Volume 60

1.	Oct. 2	Oct. 12	6.	Nov. 6	Nov. 16
2.	Oct. 9	Oct. 19	7.	Nov. 13	Nov. 23
3.	Oct. 16	Oct. 26	8.	Nov. 20	Nov. 30
4.	Oct. 23	Nov. 2	9.	Nov. 27	Dec. 7
5.	Oct 30	Nov 9	10.	Dec. 4	Dec. 14

11.	Dec. 11	Dec. 21	21.	Mar. 5	Mar. 15
12.	Dec. 18	Dec. 28	22.	Mar. 12	Mar. 22
13.	Jan. 8	Jan. 18	23.	Mar. 19	Mar. 29
14.	Jan. 15	Jan. 25	24.	April 9	April 19
15.	Jan. 22	Feb. 1	25.	April 23	May 3
16.	Jan. 29	Feb. 8	26.	May 21	May 31
17.	Feb. 5	Feb. 15	27.	June 18	June 28
18.	Feb. 12	Feb. 22	28.	July 16	July 26
19.	Feb. 19	Mar. 1	29.	Aug. 13	Aug. 23
20.	Feb. 26	Mar. 8	30.	Sept. 10	Sept. 20

## DX Time Machine

Receptions from the DX log of Max Watkins, Tecumseh, NE: 1923: June 2: WPAM, Topeka, KS; June 4: WEAU, Sioux City, IA; June 7: WEAV, Rushville, NE; June 16: KFEQ, Oak, NE; June 28: WAAZ, Emporia, KS; June 30: WSAI, Cincinnati, OH; July 30: WEAB, Fort Dodge, IA; August 18: KFHD, St. Joseph, MO; WTAS, Elgin, IL; WNAV, Knoxville, TN; Aug. 19: KFI, Los Angeles; Sept. 7: WBAD, Minneapolis, MN; Sept. 14: WCBF, Zion, IL; Oct. 1: KFKB, Milford, KS; CJCD, Toronto, Canada; WBAV, Columbus, OH; WGR, Buffalo, NY; WCAP, Washington, DC; WHAZ, Troy, NY; WBAK, Harrisburg, PA.

### From the pages of DX News:

50 years ago ... from the June 17, 1942 DXN: Al Bartholomew, Bradford, NY reported the receipt of his 1,300th verie, from WFIN. He reported to 86 stations during the past DX season, receiving veries from all but 11, adding "More than usual holding out this year".

25 years ago ... from the July 15, 1967 DXN: Ernie Wesolowski's new sunrise-sunset maps "were going like hotcakes" ... Don Reynolds was organizing a joint NRC-IRCA foreign contest.

10 years ago ... from the July 19, 1982 DXN: This issue was the first from Cambridge, WI under the stewardship of Mike and Sue Knitter ... Ernie Cooper bagged LRA-1-870, Buenos Aires June 19 ... Skip Arcy lamented the passing of several radio magazines.

# AM Switch

**Jerry Starr**  
c/o WHOT Radio  
4040 Simon Road  
Youngstown, OH 44512-1320

*Status changes in AM stations, supplied by the FCC and listeners*

## CALL LETTER CHANGES

### Old call:

540	KHKN	CA	Carmel Valley
790	KCEE	AZ	Tucson
870	WVOZ	PR	San Juan
920	WWSF	AL	Andalusia
960	WKZA	PA	Kane
1050	WXTH	AL	Alexander City
1150	WZBQ	AL	Tuscaloosa
	KFRR	CO	Englewood
	WYRS	SC	Rock Hill
1160	*New	NV	Virginia City
1390	WNLF	MI	Charlotte
1430	WFXF	IN	Indianapolis
1470	KZZK	UT	Tremonton
1490	KGUC	CO	Gunnison

### New call:

KIEZ
KWFM
WQBS
WKYD
WGLE
WTLM
WSPZ
KCUV
WAVO
KNKQ
WNNY
WCKN
KUFA
KPKE

## APPLICATIONS/GRANTS FOR NEW STATIONS

None

## APPLICATIONS FROM EXISTING FACILITIES

567	KGUM	GU	Agana: powers to 10000/10000 (Guam)
650	KZTU	OR	Junction City: to 660 kHz 10000/1000 U4, city of license to Eugene, OR
860	KZTW	OR	Troutdale: powers to 50000/450, city of license to Fairview, OR
890	WBMA	MA	Dedham: powers to 25000/3000, city of license to Wellesley, MA, relocate transmitter site to that of WBIV-1060 (Both stations will share common antennas)
1050	KMIS	MO	Portageville: reduce power to 600 watts
1060	WBIV	MA	Natick: reduce powers to 1000/3300 to accommodate WBMA's move (see 890 above)
1180	WBCQ	PA	Quakertown: power to 900 watts

## GRANTS TO EXISTING FACILITIES

820	WQSI	MD	Frederick: changes in antenna system
870	KPRM	MN	Park Rapids: changes in antenna system
1120	KMOX	MO	St. Louis: install auxiliary antenna
1160	WCBX	VA	Fieldale: relocate transmitter site (new)
1240	WOON	RI	Woonsocket: relocate transmitter site
1290	WOOC	CT	Hartford: power to 490 watts, relocate transmitter site, city of license to West Hartford, CT
1330	KNOW	MN	Minneapolis: relocate transmitter site
1380	WAHB	NY	Bath: day power to 5000 watts, add 350 watts nights, antenna to U1
1490	WOHI	OH	East Liverpool: reduce powers to 660/660, changes in antenna system
1520	KFXE	MO	Camdenton: day power to 10000 (4200 CH) D3 (corrects last issue when we listed the 4200 watt Critical Hours power as a night power)
1540	WOGR	NC	Charlotte: reduce power to 2500, changes in antenna system, relocate transmitter site



P.O. Box 210 • Sparta, Tennessee 38583

## OTHERNESS

600	KNYO	CA	Independence: operating authority CANCELLED and call letters DELETED
710	WKXB	TN	Smyrna: silent station is ON THE AIR
730	WDKT	AL	Madison: silent station is ON THE AIR
900	WCER	OH	Canton: silent station is ON THE AIR
950	XEKAM	BC	Tijuana: station is SILENT (San Diego market)
960	WGLE	PA	Kane: silent station is ON THE AIR
1030	KDUN	OR	Reedsport: silent station is ON THE AIR
1050	WQMS	VA	Norfolk: station is SILENT until mid-July
1090	WXBK	AL	Albertville: station is SILENT
1110	WKEG	PA	Washington: station is SILENT again
1120	WYZQ	TN	Maryville: station is SILENT again
1130	WEEO	PA	Waynesboro: station is SILENT. Also, last issue we listed an Application from WEEO for a power increase and move to Greencastle, PA. Actually this was a previous application that was DISMISSED, not a new application. Sorry!
1140	KSSQ	TX	Conroe: silent station is ON THE AIR
1190	WMAD	WI	Sun Prairie: station is SILENT pending change in ownership (their FM is silent also)
1200	KCPD	CA	Cathedral City: construction permit for this unbuilt station has been CANCELLED and the call letters are DELETED
1220	WOPH	TN	Etowah: silent station is ON THE AIR
1240	KLVJ	ID	Mountain Home: station is SILENT
1260	WDKN	TN	Dickson: silent station is ON THE AIR
1270	WUCO	OH	Marysville: silent station is ON THE AIR
1310	KMBS	LA	West Monroe: station is SILENT
1320	WTSS	PA	Scranton: station is SILENT
1340	KXEQ	NV	Reno: silent station is ON THE AIR
	WTSW	PA	Wilkes Barre: station is SILENT
	KCRN	TX	San Angelo: silent station is ON THE AIR
	KAPA	WA	Raymond: station is SILENT
1380	KPAL	AR	North Little Rock: station is SILENT
1430	KROO	TX	Breckenridge: silent as KSTB, is ON THE AIR
1490	WWIL	NC	Wilmington: station is SILENT
1500	KMXO	TX	Merkel: station is SILENT
1520	WINW	OH	Canton: silent station is ON THE AIR
	WITM	TN	Elizabethton: station is SILENT
1530	WCRJ	FL	Jacksonville: silent station is ON THE AIR
1540	WYNC	NC	Yanceyville: silent station is ON THE AIR
1570	KPYK	TX	Terrell: last issue we listed this new call (ex-KTER) as being in Terrell, ID. It was listed thus in a source. I should have known better but didn't spot mistake until it was too late. Sorry!
1580	KPCA	AR	Marked Tree: license for this long-silent station has been CANCELLED and call DELETED
1590	WQGW	CT	Waterbury: station is SILENT

**THANKS:** Douglas Smith W9WI, Gregory Henson, Jack Parks, Jeffery Seiler, Wayne Heinen, Ed Krejny, Todd Lupner, Bob Ford & M.S.J.

We apologise for the errors in last month's AM Switch, they have all been corrected this month. We have been deep in the midst of the New NRC Log project, checking every bit of every entry in the NRC database. There are massive corrections and changes from the last Log and there have been some long hours in front of the computer terminal. Last month's AM Switch was put to bed at 0430 to make deadline and it appears we may have gone brain dead by





that time. Many thanks to an alert membership for keeping me honest!

73 and Good DX, *Jerry & BKF* Jerry Starr & Buffalo K. Foorman

# Contests

Rick Dau

401 Emerald St., Apt. #9  
Iowa City, IA 52246-3003

Promotion of the DX hobby through competitive listening.

## Final 1991-92 Contest Standings

	A	B	C	D	E	F	G
Earl Higgins, St. Louis, MO	3227	1307	380	100	1440	0	0
Mike Jeziorski, Detroit, MI	3050	1420	195	125	1310	0	0
Rick Dau, Iowa City, IA	2628	1363	200	75	970	0	20
Doug Smith, Nashville, TN	997	722	15	0	230	0	30
Rob Kramer, Chicago, IL	788	633	115	0	40	0	0
Bill Hardy, Aberdeen, WA	199	149	25	25	0	0	0
Nancy Hardy, Aberdeen, WA	146	146	0	0	0	0	0
Todd Brandenburg, Topeka, KS	0	0	0	0	0	0	0
Dave Hascall, Fortville, IN	0	0	0	0	0	0	0

A = total points; B = state & province points; C = s/ons & s/offa heard;  
D = "Most Wanted" stations heard and reported to DDXD; E = other new logs;  
F = 1st report of new station; G = stations back on air and reported to DDXD

Prizes will be distributed in some fashion as determined by the NRC Board of Directors. They should be announced soon either within the pages of DXN or at the convention in Omaha. It's been a lot of fun, and I hope to see you all again next fall. 73!

## Radio Stations Blown Up in Chile

by César Obijo

Santiago, Chile, May 18 (UPI).—Two small commercial radio stations, one in the south and the other one in the north, were destroyed in the early morning today.

The police reports say that the stations were "Radio Teniente Meriño", CD151 in 1510 kHz with 1 kW, in Lebo, an impoverished port in the Arauco carboniferous zone, some 690 kms south of Santiago, when persons unknown blown up the house where the transmitter was located unguarded.

The news adds that the carbon miners in the Arauco zone organized some protests and rallies five weeks

before the elections to be held on June 28 for municipal officers. These are the firsts elections held in 21 years, previous to the general election on December 1993 for the successor of President Patricio Aylwin and the new Congress.

The other radio station destroyed was "Radio Río Elqui", CA108 in 1080 kHz with 1 kW in the town of Vicuña, a city located 490 kms north of Santiago, its transmitter being burnt out. This station belongs to Fernando Zambra, owner of some other radio stations of much more importance in the nearby regional capital La Serena.

Both radio stations, according to the police, were attacked between 3.00 and 4.00 in the early morning.

## Are you expiring?

We hope not! To avoid expiration, mail your remittance to the DX News Membership Center early. Allow at least three weeks after mailing your check or money order for new renewal data to appear on your DXN mail label.

# Domestic DX Digest

William Hale

15366 La Paz Avenue, #110  
Victorville, CA 92392

DX Catches in the Eastern U. S. and Canada, with 24-hr. ELT

## MEDIUM WAVE RAMBLINGS

■ Only a few "small" reports this issue. I guess *that* time of the year has arrived as SPECIAL items predominate the column. But that's great, as this is the place to get the word out first.

■ With HQ addressing the abbreviation question an issue or two back, please keep yours to a minimum, using only those seen at the end of this column. As you may have already noticed, "mx" and "nx" are no longer being used. And as time goes on, we'd like to eliminate more. As far as I'm concerned, there are just too many, and they are not standardized. Even within the NRC, many members are associates of, and receive bulletins from, other clubs which use different abbreviations for common terms. So, for now, let's leave these dogs lie, and concentrate on the major objective here, that being DX and those HOT TIPS.

■ FCC Commissioner **Al Sikes** was **Larry King's** first guest on June 16th. If you missed it... you didn't miss a thing. Most questions from listeners were not worth the time and effort, and no answers from the commish were of any significant value. Although AM Stereo was addressed, Mr. Sikes said it hadn't been accepted yet. Hah! It might be accepted if the FCC would get off it's can and standardize the system!!

■ As most of you know, I've been moving around quite a bit lately. Actually, one move in several small(?) stages. In November 1991 my job forced me to move from Texas to Victorville, CA. Knowing that another dislocation would follow within a year, I elected to leave my wife and youngest daughter at home and moved here alone. So with clean socks and my computer, I journeyed west. Now that second stage is in progress, with my wife and daughter joining me for about 4-6 weeks (gotta take them to Disneyland, you know), when we'll pack up and venture north to Boise, Idaho. Don't let all this upset your DX reporting. Keep your cards and letters coming. No DX will be edited out for time purposes while I'm in this situation. I'll get a new, permanent address to HQ as soon as possible. Until then, this Victorville address will do. Hopefully, later on, the USPS will do their part, so I can do mine. I've been notified that DDXD is being geographically divided, but don't know the effective date. Maybe with the dawning of Volume Sixty? Hopefully, by then, I should be relocated and pretty-well settled.

■ A negative report from the West this time. Thanks to those reporters who took the time to check in over the past month. Next deadline for me is **July 18th**.

## SPECIAL

- 570 WKYX KY Paducah - No longer in C-Quam \$ (terco). (EB-KY) LAFAYETTE, LOUISIANA 70502
- 590 KEZK IL Wood River - Now in C-Quam \$. (EB-MO)
- 710 WKXB TN Smyrna - Back on with C&W music. Ex: WSVT. (EB-TN)
- 950 KLIK MO Jefferson City - Now in C-Quam \$. (EB-MO)
- 970 WMAY IL Springfield - Now in C-Quam \$ and is now OLD, dropping C&W. (EB-GA)
- 1190 KUHI TX Dallas - Per announcement on the program, now carries Larry King's show. [Ed.-CA]
- 1270 WVKY KY Louisa - Returned to the air (first heard June 2nd). IDs as The Big W with WPKE 1240 Prestonburg and WPTT 960 Prestonburg. (AD-WV)
- 1420 WWEV GA Decatur - 6/12 1602 Good → fair over WRCG with ContChr, FM 91.5 and 1420 slogan, Atlanta traffic. Simulcasts WVEV-FM 91.5 Cummings, GA. Ex: WAVO, BBN REL. (EB-GA)

## UNIDS AND UNID HELP

- 620 WRJZ TN Knoxville - Could be Shawn Axelrod's unID (Issue 26)? Sure sounds like it! (AD-WV)
- 1090 UNID ?? - 6/8 0400 Broke out of noise and sounded like an AM-FM ID, but could not catch first part, only plain, spoken 1-0-9. Who IDs as 109? This with WBAL off. (GM-CT)

kacy  
1520 AM

POST OFFICE BOX J  
LAFAYETTE, LOUISIANA 70502



6  
1300 WOOD MI Grand Rapids - is indeed DS-DE's unID of 5/15 (Issue 26).  
Plainfield is the name of both a major street in eastern Grand Rapids, and  
also a township which borders the city on the east side. (PLB-MI)

#### MIDNIGHT TO 0800 HOURS ELT

640 KFI CA Los Angeles - 5/25 0437 Poor with KFI News and Weather, mixing  
with R. Reloj & Cuba and CKRC splatter. Using PLAM board. (SA-MB)  
670 WMAQ IL Chicago - 6/14 0432 Strong with WMAQ Traffic report and weather,  
in CJOB null. (SA-MB)  
690 CBKFI SK Gravelbourg - 6/14 0430 Good with Classical music I CKSB-1050  
Winnipeg. (SA-MB)  
990 CKIS PQ Montreal - 6/6 0450 Very Strong with Oldies 990 ID, oldies music,  
weather for Montreal. (SA-MB)

#### 1600 TO 2400 HOURS ELT

800 CHAB SK Moose Jaw - 5/23 1627 Fair with CHAB ID - oldies. Good signals  
in middle of the day, but only using PLAM board. Otherwise, only a bet.  
(SA-MB)  
1250 WEMP WI Milwaukee - 6/7 2259 With oldies, legal ID. Dominating the channel  
for over an hour. First time heard here, although have heard WISN-1130  
several times and WTMJ-620 once. Engineer there reported null in this  
direction. (JEL-MO)

#### REPORTERS

JEL-MO J.E. Lewis Kansas City, MO; Grundig Satellit 400 + Radio West Shotgun // Select-A-Tenna  
GM-CT Gary Mitchell Fairfield, CT;  
PLB-MI Philip Boersma Spring Lake, MI;  
EB-xx Eric Buencaman Marietta, GA; DX-400 . . . Murfreesboro, TN; Delco ETR . . . Paducah,  
KY; Mopar AMS/FMS . . . Ferguson, MO; Mopar AMS/FMS  
AD-WV Al Dillon Huntington, WV; [Thanks for the kind words, Al - Ed.]  
SA-MB Shawn Axelrod; Winnipeg, MB; R-70 w/PLAM board & 4kHz filter + 4' box loop  
Ed.-CA Editor, N5SZC/6 Victorville, CA;

#### ABBREVIATIONS AND SPECIAL SYMBOLS USED IN DDXD-National Edition

// :parallel with or to - :into :00on the hour AC:Adult contemporary AP:Associated Press BBD:big band  
BRN:Business Radio Net C&W:country & western CHR:contemporary hit radio CID:code ID CL:call letter  
ContChr:contemporary Christian EZL:easy listening EE:English FF:French GOS:gospel IRN:Interstate Radio  
Net LSR:local sunrise LSS:local sunset MLB: Major League Baseball NBA:National Basketball Assn  
NPR:National Public Radio OC:open carrier pbp: play-by-play POL: political PSRA:pre-sunrise authority  
PSSA:post-sunset authority QRM:man-made interference QRN:natural interference QTH:location REL:religious  
ROK:rock 'n' roll RS:regular schedule \$:stereo SID:singing ID SRS:sunrise skip SS:Spanish SSB:Star Spangled  
Banner SSS:sunset skip TC:time check TT:test tones UC:urban contemporary UPI:United Press International

73 *[Signature]*

#### New from NRC's DX Audio Service:

#### "After Dark #2"

Four C-90 tapes in a holder now available for only  
\$9.50 postpaid. Listen to accounts about the VOA ...  
news about radio today ... 45 minutes from WNRC, and  
more airchecks from special stations ... and many  
special features. Order from NRC Publications - Box 164 -  
Mannsville, NY 13661. NY orders, please add sales tax.

## International DX Digest

7  
Jim Renfrew

61 Wilcox Street  
Rochester, NY 14607-3832

Foreign DX Catches. Times are UTC; for ELT, subtract 5 hrs.

Feast your eyes on more fascinating loggings from Newfoundland, including Bolivia (which I  
haven't seen reported from North America in many a year).

The deadline for IDXD loggings is usually the Friday preceding the Topeka deadline. In May,  
due to a heavy work load, I sent the column in about 10 days earlier than usual. My apologies to  
those whose loggings did not get in the June DXN. They are included here.

New Zealand DX Times arrived in my mailbox this month, for the first time, along with a  
friendly letter from Arthur Cushen. This, along with other club newsletters, is the result of a  
bulletin exchange with the NRC.

Ernest Cooper hopes to see me in Omaha at the NRC Convention. Not this year! I work most  
weekends, unfortunately.

I have received a list of Cuban AM and FM stations based upon a monitor's recent travels there,  
but this will have to wait until next month.

#### TRANS-ATLANTIC

747 SPAIN Cadiz, 4/19 0141 - Pop music fair to good, Spanish teletalk noted at 0144. [DX\*MA]  
765 SENEGAL Dakar, 4/19 0150 - Big open carrier here (well after end of regular programming).  
[DX\*MA]  
792 SPAIN R. Sevilla, 5/10 0048-0052 - SER net program, ads, Spanish pops, telephone report  
about a museum. Bothered by VOWR splatter. SIO 232. [JB-NF]  
819 MOROCCO et al, 4/19 0136 - Arabic music poor in carrier jumble. [DX\*MA]  
837 AZORES/CANARY ISLANDS 4/19 0134 - Portuguese talk over/under Spanish music.  
[DX\*MA] RDP, Barrosa 5/10 0055 - Instrumental jazz // 828. Well over Spain, for once.  
SIO 433. [JB-NF]  
882 CANARY ISLANDS 4/19 0030 - Spanish male talk, poor to fair with WCBS phased. [DX\*MA]  
891 ALGERIA Algiers 4/19 0027 - Loud with man and woman in French. [DX\*MA]  
900 SPAIN R. Popular de Bilbao, 5/22 2350-2355 - COPE net program // 1224 with chat in  
Spanish about various cities. I am puzzled, though, by a second signal echoing the same  
program. I don't think this is weird propagation, but more likely a 2nd COPE station also  
here now. Anyone have recent info? SIO 243. [JB-NF] (You've got good ears: R. Popular de  
Vigo, Galicia was reported by Hakan Sundman in Distance #12 1/92. I believe this is COPE  
also - Jim)  
909 AZORES R. Cl. do Angra, 5/22 2346-2350 - Two men talking in Portuguese, pop song by  
Richard Marx, DJ talked over half of it! SIO 344. [JB-NF]  
954 SPAIN R. España, Madrid, 5/9 2238-2256 - Romantic Spanish pops, clear IDs. SIO 244. [JB-  
NF]  
963 PORTUGAL RRE, Seixal, 5/9 0104-0108 - Ads in Portuguese, TC at 0105, more ads,  
Portuguese ballad from 0107, // 1251. SIO 333. [JB-NF]  
1008 CANARY ISLANDS R. Las Palmas, 5/9 2302-2309 - Woman with news, Cadena SER ID at  
2304', entertainment news, ads, rock music. SIO 233. [JB-NF]  
1044 MOROCCO Sebba-Aioun 4/19 0025 - Woman in Arabic, fair to good despite occasional slop  
from WBZ-1030 and WEVD-1050. [DX\*MA]  
1088 ANGOLA R. Nacional, Mulenvas, 5/9 0041-0050 - Man in Portuguese mentioning Angola  
often, pop and disco music // 1367 audible also, but not as strong. SIO 333. [JB-NF]  
1098 CANARY ISLANDS 4/19 0022 - The most likely source of the MoR music noted here.  
[DX\*MA]  
1098 CZECH & SLOVAK REPUBLIC Nitra-Jarok, 5/5 0156-0205 - Interval Signal. woman in  
Slavic language at 0200, polka music. SIO 322 with Spain partially phased out. [JB-NF]  
(Today's New York Times (6/21) predicts these two regions will become two separate  
countries - Jim)  
1107 EGYPT Batra 4/19 0126 - Arabic chant briefly to a good peak. [DX\*MA]  
1107 SPAIN RNE-5 synchros, 5/9 2259-2301 - Grand music, pips, ID, news. SIO 244. The RNE  
synchros are generally well synchronized, and this signal was weak but very clear. In  
contrast, the COPE synchros are poorly synchronized, so their audio is sometimes tricky to  
follow due to the "echo". [JB-NF]  
1134 SPAIN COPE synchros, 5/16 2330 - Pips, net ID, news summary // 1224. [JB-NF]



- 1187.9 MOROCCO Casablanca 5/8 2315-2328 - French program about the blues, lots of music // 1197. Seemed slightly off frequency which I suspect was the reason for the muddy audio. [JB-NF]
- 1197 LESOTHO BBC, Lancer's Gap 5/8 2329-2331 - Snatches of BBC World Service program, heard "BBC" at 2330, punk music. Signal badly mauled by co-channel Morocco (dominant) and Spain. SIO 322. 5/16 2317-2322 - BBC World Service request program, absolutely alone on frequency! Compare with previous logging. SIO 253. [JB-NF]
- 1215 SPAIN R. Popular de Castellon/Lorca 5/8 2254-2302 - Both evident with COPE net program, 2 stations but not synchronous (approximately 1/2 second separation), tribute to Marlene Dietrich, pips at TOH, COPE ID, news. Each station SIO 322 with VOAR-1210 splatter. [JB-NF]
- 1259 AZORES RDP, Faial, 5/9 0035 - Antena 1 program, woman in Portuguese intros light music // mainland stations. SIO 243. [JB-NF]
- 1295 ANGOLA Em. Provincial do Uige, 5/8 2307-2311 - Weak in African language with talk about Angola. Faded out at 2311. Seemed exactly on frequency. SIO 232. [JB-NF]
- 1349 MAURITANIA Nouakchott 4/19 0005 - Strong het against domestics, only very fragmentary audio extractable. [DX\*MA]
- 1422 ALGERIA Alger, 5/8 2150-2210 - French program, French rap music, interview with Algerian student about politics. WRTH says Holy Koran service, but this was secular. Deep fades, from strong to nothing, peak SIO 343. [JB-NF]
- 1431 UKRAINE Nikolayev 5/9-10 2359-0007 - R. Moscow IS, pips on hour, woman with possible ID, man with news in Slavic language. Tuned out at 0004 in quest for a //, found Kiev 4940 // with operatic music at 0007. SIO 242. [JB-NF]
- 1449 UNID 5/9 2227 - Middle Eastern music, not // 1251; at 2245 recheck sounded like Koran; carrier still detectable at 2310. Was looking for Iran. Hets developing from 1450 and 1448. At best, SIO 242. [JB-NF]
- 1458 ENGLAND Greater London R., 5/23 0155-0205 - A real mess here with 3 UK stations and unID (see below). This one distinctive with BBC World Service news at 0200. SIO 322. [JB-NF]
- 1458 UNID 5/23 0155-0205 - French station with interview then news by woman at 0200. Could just get words here and there, heard European Community items and phrases like "mille francs" that suggest either Belgium or France. Was on frequency (cf 1458.2 in NF DXpedition log and in a subsequent log of mine). Any ideas? SIO 222-1. [JB-NF] (How about Albania, which may be renting transmitter time, or 100 kW Mayotte! - Jim)
- 1467 FRANCE/MONACO TWR, Roumoules, 5/8 2148-2150 - Woman interviewed in English regarding AIDS in Romanian orphans. SIO 344. [JB-NF] (Licensed to Monaco, transmitter in France, I believe NRC has always considered this Monaco - Jim)
- 1502 ANGOLA Em. Provincial de Benguela, 5/9 2204-2210 - Man in Portuguese speaking about Angolan Central Committee, official interviewed by "R. Nacional de Angola" so probably a national program, but just hets on other Angolan frequencies (including SW), so could not check parallels. Faded out quickly. SIO 243. [JB-NF]
- 1503 AZORES Armed Forces R., Lajes, 5/22-23 2326-2330, 0001-0005 - C&W music program, with US-accent DJ in English, at 0001 noted Portuguese then U. S. anthems, but not a s/off as it went into U. S. news. SIO 343. [JB-NF]
- 1530 MADEIRA Posto Em. de Radiodif. do Funchal, 5/8 2240-2248 - Man and woman chat in Portuguese, alone on frequency initially, but R. Vatican up quickly, and Funchal way under by 2248. SIO at 2240 343. [JB-NF]
- 1557 MALTA Deutsche Welle, Cyclops, 5/9 2351 - Definite DW program in German with chat and German songs. SIO 243. [JB-NF] 1566 AZORES 4/19 0015 - Tentative, het, bits of Portuguese-sounding talk in merciless WQXR slop. [DX\*MA] Clube Asas do Atlantico 5/16 2308 - Noted in passing with Portuguese songs. Best signal ever. SIO 444. [JB-NF]
- 1566t BELORUS R. Moscow 5/17 0029-0030 - Moscow Interval Signal heard and taped, under the dominant station, but much too weak to discern any other program detail. Belarus synchros listed here at this time. SIO 211. See below! [JB-NF]
- 1566t IRAN Bandar-Abbas, 5/17 0029-0034. Funny story: I was concentrating on hearing the CIS station (see above) by trying to phase out the dominant signal. Without thinking, I assumed the dominant station was Tunisia. However, on review of the tape I realize that the language was not Arabic, but probably Farsi (and I phased much of it out!). Heard man and woman talking (possibly some news), bit of Jean-Michel Jarre music, then at 0033 an ID that was garbled, but started "Inja \_\_\_\_\_", which is consistent with Farsi and Dari (not Hindi), though. I'll be trying to get this again. SIO 343. [JB-NF] (both loggings very impressive - Jim)
- 1575 PORTUGAL Canidelo, 5/10 0030-0033 - R. Commercial program, Louis Armstrong tune, ad about Brazil at 0032, pop music // 1062. Dominating Spain. SIO 333. [JB-NF]

- 1615 UNID 5/9 0015 - Tiny amount of audio with pop music. Carriers detected on 1604 and 1617 also. Possibly Dutch pirates. SIO 241. [JB-NF]

# Pan-American

- 590 CUBA R. Reloj, Santa Clara, 5/8 0945 - Fair with man doing news in Spanish, "RR" on the minute in code, in CKY null. [SA-MB]
- 640 CUBA R. Reloj, 5/25 0837 - Very poor with man in Spanish and "RR" code tones under KFI in CKRC null, new for me. [SA-MB]
- 760 CUBA, R. Reloj, 5/31 0400 - Poor with man in Spanish, "RR" on the minute under WJR. [DX\*MB]
- 780 BRITISH VIRGIN ISLANDS ZBVI, Roadtown 4/19 0139 - Fair with calypso and soca music, Carib accent English announcer. [DX\*MA]
- 780 VENEZUELA R. Coro (YVMN), 5/23 0133-0137 - Spanish rap song, ads with mention of Coro, audible only with CFDR phased. SIO 322. [JB-NF]
- 825 ST KITTS Basseterre 4/19 0135 - English preaching, excellent. [DX\*MA]
- 840 ST LUCIA Castries 4/19 0104 - Loud and dominant with Creole French program. [DX\*MA]
- 895 NEVIS 4/19 0132 - Pop music, fair. [DX\*MA]
- 940 MEXICO XEQ, Mexico DF, 5/9 0939 - Good with man talking in Spanish into music, dominating frequency. [SA-MB]
- 1090 ST LUCIA 4/19 0021 - French political discussion, good with WBAL phased. [DX\*MA] 5/14 0047 - Noted in passing with football play-by-play, distinctive French accents. SIO 232. [JB-NF]
- 1100 BRAZIL ZYK694, R. Globo, São Paulo, 5/12 2328-2331 - First ZY signal heard just after sunset here, man talking in Portuguese, mention of "Globo", Brazilian music from 2331. Bad QRN. SIO 242. [JB-NF]
- 1170 COLOMBIA HJNW, Caracol, Cartagena 5/2 0507 - Jingle ID in a mess, 2 men talking. Another Spanish language station had mainly time pips with a female announcer. Does Cuba have a Reloj station here now? Phasing reduced WWVA, SIO 232. [JB-NF] (Some stations pick up Reloj during the midnight hours - Jim)
- 1280 BRAZIL ZYJ455, R. Tupi, Rio de Janeiro, 5/14 0029-0036 - Fairly clear but huge amplitude fading. Portuguese talk, ads, address in Rio, then more talk about Columbus. SIO 343-0. [JB-NF]
- 1290 BRAZIL ZYH888, R. Timnira de Maranhao, Sao Luis, 5/13 0012-0039 - Hyper male DJ in Portuguese, mention "Maranhao" often, interesting local music with lots of drums. The SW // on 4976 was inaudible. SIO 242. [JB-NF]
- 1350 ARGENTINA LS6, R. Buenos Aires, 5/13 0206-0218 - Huge lists of numbers for the "lotteria national", names towns around Buenos Aires and took news lotter results from contacts by phone link. Increasing QRM from a domestic station, but at 0206 was SIO 333. [JB-NF]
- 1375t ST PIERRE ET MIQUELON 5/31 0330 - Very poor, good strong het, bits of music and some talk in possible French. Could be St. Pierre, as only station here. The PLAM Board brought up audio here, otherwise only a het. [DX\*MB] (Next time, try for a parallel on 5055 shortwave - Jim)
- 1400 GRENADA Harbour Light, Carnacou, 5/23 0045-0050 - Choir music, ID at 0046 (part): "The Harbor Light coming to you from the beautiful and \_\_\_\_\_ of Carriacou" then syndicated religion program. Audible with CBG phased. SIO 322. [JB-NF]
- 1420 URUGUAY CW43, R. Lavalleja, Minas, 5/13 0105-0149 - IDs, lots of ads from stores in Minas, UTC-3 TCs after which sometimes something about "toda la República Oriental del Uruguay", mellow ballads, short news at 0130, talk about some boat race. Great signal for 500 watts! SIO 332. [JB-NF]
- 1420 BRAZIL R. Difusora do Vale, Acarau, 5/23 0008-0037 - Clear until domestic QRM took over, with lively Brazilian music and pops in English, nice ID after slogans and sound effects at 0019: "Radio Difusora do Vale para \_\_\_\_\_, 1420 kilohertz onda media, antena \_\_\_\_\_ direcional para todo o Vale do Acarau (pronounced A-ca-ra-oo)", then ads, "R. Difusora" jingles, then dance music until the next ad string at 0034. Both WRTH 92 and Brazilian MW list (12th ed.) by Antonio Ribeiro da Motta & Claudio Rotolo de Moraes list it with a construction permit. Both sources say 250 watts nights. At peak SIO 343. [JB-NF] (Very nice logging! - Jim)
- 1430 BRAZIL unID stations 5/13-14 2350-0010 - Jumble of at least 3 ZYs, each giving so much QRM to the other stations that I could decipher no IDs. [JB-NF]
- 1450 BRAZIL unID station, 5/13 2330-2345 - Mainly Portuguese talk, sure many IDs, but I could only get the "Radio" part, fast accordion music at 2338, ads from 2343 to 2345 fade out. SIO 232. [JB-NF]



- 1470 BRAZIL UNID stations 5/8 2356-2359 - A mess with Brazilian (perhaps two fading in and out) with Portuguese talk and echoed announcements. Very tentative "Primavera" was heard at 2356, so possibly R. Primavera, Porto Ferreira (ZYK632) was in there. SIO 322-1. [JB-NF]
- 1470 VENEZUELA YVSY, R. Vibración, Carúpano, 5/8-9, 2359-0007 - Emerged over the ZY stations with religious talk, ad string, clear ID at 0006 before Spanish cover version of Rolling Stones song. At 0006 SIO 333. [JB-NF]
- 1470 BRAZIL R. AM de Parelhas, 5/9 2325-2339 - Amazingly alone on this frequency with Brazilian songs until 2333 when heard "AM Parelhas" then ad string ending with the same abbreviated station ID and also the frequency. Brief jingle for "Hora Festa", which I guess is the name of the program, then more music. Does anyone have the call letters for this station? This is a ZY graveyard frequency, so must be only 250 watts at night. SIO 343. [JB-NF]
- 1530 UNID 5/13 0058-0106 - Two men in Spanish, talk about some "campeonato", but never mentioned the place or the country, just "de la Patria". Thus, frustratingly little to help ID this one, but the style and propagation at the time suggested that it was not HJ or YV. Initially SIO 33, but increasingly QRMed. [JB-NF]
- 1550 BOLIVIA CP115, R. Em. Canaravi, 5/12-13 2335-0007 - Essentially the only usable signal between 1500 and 1600 on a southern wire. News program "Noticiero 1992", TCs, quick ID at 2357, cholera PSAs from just before TOH, program called "Correo del Oyente" from 0001. Unequivocal ID with La Paz mailing address at 0002. AT its peak around 2325, SIO 343. [JB-NF] (A very fine logging! - Jim)
- 1610 ANGUILLA The Valley 4/19 0005 - English preaching absolutely blasting in. [DX\*MA] 5/31 0515 - Good with English religion program mixing with UNID TIS. [DX\*MB]
- 1685 COLOMBIA MER, Mercaderes, 5/31 0515 - Good, M-E-R beacon. [DX\*MB] (The Valhalla Beach group also noted possible medfers on 1620 (B or X, then T or E) and 1700 (C-R, then J or P)).

## TRANS-PACIFIC

756, 1008, 1017, 1135 UNID hets around 0900-1000. [DX\*MB]

## STATION NEWS

- ALGERIA: RTA seems not to be using 252 kHz, at least during hours of darkness. [SSF in DSWCI in ARC #21]
- ANGOLA: Active stations are Luanda 945, Lobito 1000, Huambo 1010, Luanda 1068, EP Zaire 1111.8, Cuanza Sul 1115, Malanje 1188, Benguela 1200, Huambo 1232, Nabire 1330.5, Luanda 1367, Benguela 1502, EP Mexico 1586. [Vashek Korinek in Play DX #692]
- ARMENIA: The VOA has purchased time on a MW xmtr near Yerevan for a one-hour daily broadcast in Arabic. The xmtr on 1314 kHz is reputed to have 1000 kW but no VOA engineers have visited it yet. It puts a very good signal into Bahrain during the Arabic transmission at 1900-2000. The Yerevan relay will put good signals into Iran, Iraq, Saudi Arabia and Kuwait. Other MW relays in Asia are under study. [Bill Whitacre, VOA, on R. Nederland Media Network 5/7 in NASWA 6/92]
- AUSTRALIA: 200, 2WL, 2NX, and 2KO are expected to leave AM for FM during last half of 1992. [Ian Baxter in DX Australia #118]
- BOTSWANA: VOA 621 is to be upgraded with a new 500 kW transmitter. Radio Botswana is new on 648 with 50 kW. [DX-Kuunelija via DSWCI via NZDXT 44-8]
- CANARY ISLANDS: R. Cl. de Tenerife has moved from 1314 to 1179. Per a recent visit, other active stations are 576, 621, 720, 747, 837, 882, 1008, 1098 and 1269. [Medium Wave News via IRCA via NZDXT 44-7]
- IRELAND: RTE is to sell part of its 50% stake in Atlantic 252, with UK concert promoter Harry Goldsmith's Allied Entertainment being the likely buyer. CLT, owners of Radio Luxembourg, are to maintain their 50% stake. [Broadcast, via BDXC Communication #209, in UKVK #6]
- MYANMAR: VO Myanmar has been noted on 576, replacing 954 [ARC via FERC in NZDXT 44-7]
- NEW ZEALAND: BBC World Service from Auckland on 1386 (night power 20% of day power to protect 2EA, Sydney), announcing as "World Service New Zealand", with fulltime BBC relays. Wellington 1233 also on, with Christchurch expected to follow within a year, then Dunedin. [Bryan Clark in NZDXT 44-7]
- PERU: A new station has appeared on 1040, ex-Onda Popular?, Radio Red, La Nueva Voz del Perú, Lima, "has come in well when the other Peruvians are quite poor". [Peter Chambers in NZDXT 44-7]
- POLAND: The reserve LW transmitter on 227 kHz now covers only a quarter of Poland, following the collapse of the main mast last year. A new transmitter is on order, and should be installed in October, but still from the reserve mast. [Polish DX-programme, BDXC Communication #209]

PUERTO RICO: WEXS 610 Patillas, new station, VAR format; WQBS 630 San Juan requests WSKN, News/Talk format; WORA 760 Mayaguez is now News/Talk parallel WQBS (WSKN); WPRP 910 Ponce is now News/Talk parallel WQBS (WSKN). [IRCA in ARC #21]

## QSL INFORMATION

- ASCENSION ISLAND: R. Ascension, after 6 months for a cassette and \$1, full data form, v/s Andrew Marsdon, Transmitter Engineer, also blurb about SW relay and letter with this info: "Radio Ascension transmits BBC World Service 24 hours a day and is intended to cover Ascension Island only. The carrier power is 500 watts and is produced by two HCD Research solid state 250 watt transmitters operating in parallel. The aerial was assembled from scrap and so is a little unconventional. The island MF and VHF services are provided for the local population but have little or no official BBC support." There is a sketch that shows a 120 foot mast. [JB-NF]
- ECUADOR: R. Católica Nacional 880 partial data form letter and station sticker in 3 months for \$1 US, v/s Lic. John Sigüenza, Dir. Adjunto, country #19 verified. [RSR-ON] (Excellent! - Jim)
- GERMANY: Europe #1 183 PFC and station sticker in 3 months for \$1 US, unsigned, but station stamp. [RSR-ON]
- VENEZUELA: Ecos Del Torbes 780 v/s is G. Gonzales Covera, Presidente, Calle 9, No. 8-16, Apartado Postal 152 (Codiga 5001), San Cristobal, Estado Tachira, Venezuela. Card received for SW, but should be same for MW. [DT-ON]

## CONTRIBUTORS

- [DX\*MA] Tom Beaton, Jean Burnell, Mark Connelly, and Bruce Conti, Rockport MA; 2 DX-440's, position 1 = homebrew active whip phased against RTL-1A loop with DCP-1 Controller/Phaser, position 2 = two 100' wires phased with MWDX-5.
- [DT-ON] Don Trelford, Scarborough, ON.
- [JB-NF] Jean Burnell, St. John's, NF; Icom R71A, 5/2-5 two phased 12m wires in St. John's, 5/8-10 two 150m wires (sometimes phased) at 65 deg. and 90 deg. at Cape St. Francis, 5/12-14 single 150m or 225m wires at approximately 200 deg. at Cochrane Pond Provincial Park just south of St. John's, 5/16-17 & 22-23 phased 150m wires at 20 deg. and 90 deg. at Cape St. Francis.
- [RSR-ON] Robert S. Ross, London ON; Collins 651S-1, Kenwood TS440S, Dipoles, Longwires, 4' Bos Loop.
- [SA-MB] Shawn Axelrod, Winnipeg MB; ICOM R-70 with PLAM Board and 4 kHz filter, 4' box loop.
- [DX\*MB] Shawn Axelrod, Wayne McRae and Larry Shewchuk, Valhalla Beach MB, ICOM R-70 with PLAM Board, beverages NE and West.

## ERC'S BAND-SCAN FROM FREDERIKSTED, US VIRGIN ISLANDS

- "All of the loggings were at poolside [using a Superadio I] at the King Frederik Hotel in Frederiksted, about one mile from WRRR's tower, the only one in the Virgins that did not succumb to Hurricane Hugo in 1989, as it is on the side of a hill, which evidently protected it from the main fury of those terrible winds."
- 690 ANGUILLA, Caribbean Beacon - Noted NOT parallel to 1610, but still English religion.
- 825 ST KITTS, R. Paradise - Had been silent, but is now back on the air with increased power and is NSP, according to an announcement heard on daytime RS.
- 860 DOMINICA - Uses two slogans "Voice of the Islands" and "Voice of Inspiration", "inspirational, entertaining, educational". Uses some French and mention of Martinique.
- 895 NEVIS - Station uses slogans "R. One" and "Super Mix", all English.
- 970 USVI, WSTX Christiansted, St. Croix - Is now NSP with reggae music or steel drum music. Uses slogan "97X".
- 1000 USVI, WVWI, Charlotte Amalie, St. Thomas - All English and carried MBS news on the hour. Mostly US rock.
- 1030 PUERTO RICO, WOSO, San Juan - Is all English, carries NBC, CBS, and MBS news at various times and Paul Harvey, and CBS Saturday afternoon baseball game of the week.
- 1090 USVI, WGod, Charlotte Amalies, St. Thomas - Is on RS, I believe NSP, and all English. I doubt they'll ever be heard in the States with their 250 watts against Martinique and a couple of NSP Venezuelans. I could null them in Frederiksted on St. Croix and listen to Martinique, in fact. They are parallel to 97.9 FM.
- 1190 PUERTO RICO, WBMJ, San Juan - Is English Gospel, often parallel to WIVV-1370.
- 1200 PUERTO RICO, AFRS, Roosevelt Roads - Is still on the air with mostly rock music. There is no sign of WGD, listed on this frequency in Puerto Rico.



1290 USVI, WRRR, Frederiksted, St. Croix - Is now running AN, why I can't imagine. They have never been heard in the USA! They are 1000 watts, U-1, so there is an outside chance given a strong aurora. They play mostly island reggae steel drum music.

1610 ANGUILLA, Caribbean Beacon - They are Religion-Gospel, but carry commercials and CNN news, and make no mention of the 690 frequency.

Thanks, Ernie, for providing detailed information with each logging. This gives us things to look for when we're aiming for these targets from a distance.

## In the Beginning

John D. Bowker

The complete list of U. S. broadcast stations on the indicated frequency as published by the Federal Radio Commission in 1934. "S" = shared; "SH" = Specified hours; "T" = Transmitter location; "D" = Daytime operation only; "U" = Unlimited time

Frequency (kc)	Call letters	Main studio and transmitter location	Power	Time designation
1410, regional	WAAB	Boston, Mass.-----	500 w----	U.
		T—Quincy.		
	WBCM	Bay City, Mich.-----	500 w----	U.
		T—Hampton Town-ship.		
	WRBX	Roanoke, Va.-----	250 w----	S-WHIS.
	WHIS	Bluefield, W. Va.-----	250 w----	S-WRBX.
	WODX	Mobile, Ala.-----	500 w----	Simultaneous D; S-WSFA night.
		T—Springhill.		
	WSFA	Montgomery, Ala.-----	500 w----	Simultaneous D; S-WODX night.
	WDAG	Amarillo, Tex.-----	1 kw-----	S.H.
	KGRS	do-----	1 kw-----	S.H.
	WROK	Rockford, Ill.-----	500 w----	S-WHBL.
	WHBL	Sheboygan, Wis.-----	500 w----	S-WROK.

## The Majic still works

Radio station CJMJ keeps number one spot; CBO scores

By Chris Cobb  
Cobb is media writer

The Majic is holding. Listener ratings due out Thursday show Majic 100 has held on to its number one spot with the most listeners among the national capital area's radio stations.

Other figures in the rating show that in the city and parts of the Ottawa Valley — known as its ratings' language as the Central Area — people tune in the longest to Ottawa's CBC station CBO. It's followed by CFMO, with Majic and Energy 1200 sharing third spot.

Majic (CJMJ-FM) started broadcasting less than a year ago and in its first ratings battle shot to No. 1 overall.

"It's wonderful for us," said CJMJ station manager Dianne Wilson Tuesday. "It shows we have listener loyalty and our position last time was not just a glitch."

Wilson was also celebrating the steady climb of Majic's sister station Energy 1200.

The ratings are measured by the Bureau of Broadcast Measurement, which mails diaries to several thousand households and asks people to record their radio listening habits.

The figures show Majic was attracting a

**"Frankly we don't care about the overall figure. We are either number one or number two with . . . the group retail advertisers want."**

—Chuck Azzarello  
CHEZ station manager

weekly audience of 225,400, followed by CKBY at 221,700 and CFMO at 209,500.

Some of Majic's opponents in the highly-competitive Ottawa radio market had been predicting a dip in audience for the new station after its honeymoon period.

If there's happiness at Majic 100's Carling Avenue studio this week, executives at CHEZ-FM have little to celebrate. CHEZ ("Ottawa's rock") has lost 5,000 listeners since the fall after constantly high showings for the past couple of years. Nor did

the station do too well in the Central Area CHEZ, which overall was no. 2 to Majic in the fall, has dropped to seventh place, but station manager Chuck Azzarello says the station is still strong where it counts — with the 25-54 age bracket.

"Frankly we don't care about the overall figure," he said. "We are either number one or number two with the 25 to 54 demographic and that's the group retail advertisers want."

CFRA, once the dominant force in Ottawa radio, shows little movement. It has lost about 60,000 listeners since 1990 and despite a format change has been unable to recoup its losses. The station, however, expects a big increase in listeners when it begins its Rough Rider broadcasts this summer and Senators coverage in the fall.

Country station CKBY gained steadily, as did "easy listening" CFMO which also had changed its format slightly to feature more songs and fewer instrumentals.

CKBY's new team of Jo-Anne Polak and Steve Papoušek led the morning show field in the full coverage area followed by CBC's *CBO Morning*. In the Central Area, CBO is number one from 6 a.m. to 10 a.m.

Up to 80 per cent of a station's revenue is made during the morning show period.

The Ottawa Citizen  
—via Peter Weeks

## FM DX

### Digest

DX on the FM band, from April through September

Hello again. I have to agree with Mike Hawk and Harry Hayes that the band has held up quite nicely this season. Besides E-skip, there has been some good tropo ducts into eastern Tennessee. Lots of E-skip during the June VHF contest the 13th and 14th of June as a group of us worked 46 states and several provinces on 6m, much of which got into the FM band as well.

The next deadline is 24 July. See you in 4 weeks. 73

Robert S. Ross VE3JFC, Box 1003, Stn. B, London, ON N6A 5K1 Equipment: Sherwood S-2660, Marantz 2226B, FM beam @ 20 ft

5.25.92 E-skip

88.1 KNTU TX Denton- 0816 SX (??- trb) report, ID as KNTU- North Texas Univ, Jazz music

89.3 KSBJ TX Humble- 0826 Religious talk gospel music, ID

91.1 WEGL AL Auburn- 2018 FM91 Sports for Auburn Tigers on WEGL-FM91. Program called 'Sidelines'

91.1 WPSM FL Fort Walton Beach- 2031 Gospel music- ID as 'WPSM-FM91'. 385 watts!

88.1 WUWF FL Pensacola- 2040 classical mx, ID as WUWF-88.1, talk about Florida State Univ.

91.9 WGIB AL Birmingham- 2100 ID as 'Inspiration for the Journey, WGIB Birmingham'- into Gospel music, QSB behind WMBV- 600 watts!

91.9 WMBV AL Dixon Mills- 2100 ID and address given. Religious talk, phone number given for syndicated program

105.9 WGUD MS Pascagoula- 2104 C&W music, ID by man, 'W-Good' and 'WGUD-106'

Harry Hayes, 9 Henry St., Wilkes-Barre, PA 18702

May 1992 is in my opinion the most active E skip May that I've ever experienced here. Granted most of the E skip activity took place below FM on TV channels 205 but FM wasn't all that bad either. Equipment is a Siperadio II modified with a 110 kHz filter, a 9 element Jerrold FM antenna in attic (hand turned), with a Radio shack amplifier with attenuator (for my strong locals) at the set. The

Todd Brandenburg, KA0KAN

9720 NW 31st

Silver Lake, KS 66539-9403

modified Superadio is performing extremely well as my loggings on 93.1, 101.1 and 101.5 via E skip prove. I have super strong locals on 92.9 and 101.3. Log total 797 mostly via E skip.

4.10.92 Tropo Scatter

104.5 CHUM ON Toronto- 2115 'CHUM FM' ID

4.17.92 Tropo Scatter

106.1 WCOD MA Hyannis- 1924 soft rock, ID's

4.19.92 Tropo Scatter

106.7 WRKZ PA Hershey- 2100 with c&w music, strong at this time

104.1 WNNK PA Harrisburg- 2223 fair with 'Wink 104' ID

5.8.92 E-skip

94.5 WCVU FL Naples- 1232 'Shore 94.5'

95.3 WOLZ FL Fort Myers-Naples- 1233 oldies music

5.24.92 E-skip

94.7 KNEN NE Norfolk- 2043 rock music

95.1 KLDZ NE Lincoln- 2052 In for about 90 minutes with numerous ID's and oldies music

101.1 KLIR NE Columbus- 2110 oldies, 'Klear 101.1' \*\*\*\*\*

96.1 KEFM NE Omaha- 2146 'Lite-96' no CID heard

89.1 KHNE NE Hastings- 2159 classical, Nebraska Net ID then call, local WSPX-

89.1 off

5.25.92 E-skip

94.5 KWKH LA Shreveport- 1233 c&w music, 'The New 94 Country'

94.5 KSMB LA Lafayette- 1234 fighting w/ KWKH with rock music

96.1 KWXX LA Lake Charles- 1249 ad mentioning town name

93.3 KYKR TX Port Arthur- 1252 an interesting reception as this was IDing as 'KYKR now 95.1 in Port Arthur'- This apparently plans to move. A check of 95.1 revealed Natchez, MS not the normal Beaumont station which normally appears on openings to this area of Texas.

95.1 WQNZ MS Natchez- 1255 ads for town mentioned several times, no CID

89.1 KVDP LA Dry Prong- 1300 religion and full ID, into AP news \*\*\*\*\*

FM 96.7

k-steambot

- 90.7 KSLA LA Alexandria- 1305 ending classical, ID and acknowledgement of a request from the Adirondack Mountains. My local WCLH-90.7 off air. \*\*\*\*\*
- 90.9 WMAO MS Greenwood- 1306 w/ classical and ID over national network
- 101.5 KNUE TX Tyler- 1343 c&w and ID's next to superlocal WGBI-101.3 \*\*\*\*\*
- 93.1 KTYL TX Tyler- soft rock, ID, many local ads \*\*\*\*\*
- 100.7 KPXI TX Mount Pleasant- 1353 local ads, no CID heard
- 103.7 KVIL TX Highland park- 1355 ID's and rock music
- 89.1 KUAR AR Little Rock- 1400 ID \*\*\*\*\*
- 88.9 KETR TX Commerce- 1400 Quite strong w/ oldies and ID 'A service of East Texas University' and 'Home of the Gold' slogan \*\*\*\*\* 97.5
- KQUS AR Hot Springs- 1418 Car dealership remote broadcast 100.7
- KBBQ AR Fort Smith- 1430 oldies and numerous local ads, no CID heard. \*\*
- 95.1 KLDZ NE Lincoln- 2100 programming "English Invasion with 'Gunner' and Charlie Tuna
- Eric Bueneman, 631 Coachway Lane, Hazelwood, MO 63042 Receiver: Yorc AM/FM/FMS with 4.5" b&w TV and whip antenna
- 6.13.92 E-skip (from Marietta, GA)
- 100.3 WCTS MN Minneapolis-St. Paul- 2215 good to poor over WSGY/WOKI with EZL style Religious music.
- Format changes:
- 88.7 WSIE Edwardsville, IL- now Jazz/R&B/News, 'Rhythm and News'
- 89.5 KCFV Ferguson, MO- Temporarily SILENT for maintenance
- 89.5 WMTS Murfreesboro, TN/Nashville- Jazz, 'Jazz-89'
- 89.9 WLCA Godfrey, IL- now AC/CHR
- 93.9 WKTG Madisonville, KY- New Wave on weekend afternoons in addition to usual CHR format, '94-KTG' 95.5 WXJO Bethalto, IL- still SILENT, despite listeners' efforts to return station to the air.
- 97.1 KHTK Florissant, MO- now Dance/CHR, still 'Hot 97'
- 99.7 WWTN Manchester, TN/Nashville- News/Talk, ex- WMSR-FM
- 99.9 KFAV Warrenton, MO- on the air with CHR/Rock, 'All-Hit V-100'
- 101.1 WFXB East St. Louis, IL- Classic Rock // KFXB-105.7, 'The Fox' (not to be confused with Kansas City's '101.1 The Fox' KCFX Harrisonville MO- trb)
- 102.5 WQZQ Dickson TN/ Clarksville/

## Nashville- EZL, 'Cozy 102'

- 103.3 WKDF Nashville, TN- now carries Paul Harvey
- 104.1 WKXX Jerseyville, IL- Hot C&W, 'Kix Country 104'
- 104.5 KSLQ-FM Washington, MO- NOS days, Talk nights // AM
- 104.9 WCBW Columbia, IL- now 25 kW
- 105.7 KFXB Ste. Genevieve, MO- Classic Rock // WFXB-101.1, 'The Fox'
- By the time you read this, I'll be back in St. Louis. In the next FMDX (hopefully), I will give you my final totals from metro Atlanta. I will miss the incredible DX I received from this area of the country. DX'ers take note: You may be able to find me back on KCFV-89.5 this fall, time and day to be announced soon. Speaking of KCFV, via Buzz Carlson at KFAV-99.9: the station is off for installation of a new audio mixer and general maintenance this summer. New address is noted above. 73, KDX0STL.

Mike Hawk NoOSY, 10212 P St., Omaha, NE 68127 Equipment: modified Kenwood KT-815, FM-10 up 30', 75 ohm coax, rabbit ears for some phasing during tropo openings

DX has been GREAT! I didn't think I'd hear this much all year! I tried to eliminate all relogs, etc., and summarize where possible, otherwise I'd have 3+ pages (what follows is 2 1/4, folks- trb). Please look at the strange propagation on 6.16 around 1800-1900. Definitely not E-ski as there was very little activity on 10 meters and none on TV. Don't think it was tropo due to high winds (25+ mph at ground, 55+ aloft) which mixes up the air too much to form inversion layers, and thus tropo. Signals were weak, fluttery and faded a lot, but not very deep, and not like an E-skip fade. Sounded like tropo scatter, but distances much too long for that (Back scatter, perhaps?- trb)

- 6.5.92 E-skip
- 89.1 KFAE WA Richland- 0930 Northwest Public Radio, ID with all translators
- 90.1 KOLU WA Pasco- 0948 Tri-cities and west and south Washington weather
- 6.6.92 E-skip 1936-2130
- 88.3 KNAI, 94.5 KOOL, 95.5 KOY, and 102.5 KNIX AZ Phoenix
- 93.7 KRQQ, 94.9 KKLD AZ Tucson
- 97.9 KUPD AZ Tempe- rock music and ID
- 104.7 KVRV AZ Mesa- rock music and a lot of KESY-104.5 splatter
- 107.1 KVVA AZ Apache Junction- Spanish programming
- 6.8.92 Tropo

- 99.1 KMAG AR Fort Smith- country, info on a concert coming
- 97.5 KQUS AR Hot Springs- weather, US-97 FM, 492 miles
- 6.13.92 E-skip 1911-2020
- 88.7 WAYJ FL Fort Myers- Way FM
- 92.9 WQLS FL Punta Gorda- local ads
- 95.7 WDDL FL Homestead- Spanish, near Miami
- 88.1 WJHU, 88.9 WEAA, 93.1 WPOC MD Baltimore
- 92.7 WGMD DE Rehoboth Beach- Sunny 92.7
- 92.5 WINC VA Winchester- extremely tough with KEZO-92.3
- 97.5 WKMZ WV Martinsburg; WALK NY Patchogue; WKYN PA St Marys, WPST NJ Trenton
- 6.14.92 E-skip 1008-1128 and 1148-1210
- 94.7 KIXY; 97.5 KGKL; 107.5 KSJT TX San Angelo
- 94.3 KYKX TX Ozona and KHER TX Crystal City
- 91.9 XHEC CL Sabinas- SS, good clear ID
- 99.1 KNOT; 102.1 KAHM AZ Prescott
- 107.9 KMLE AZ Chandler
- 101.5 KMXX AZ Phoenix- The Mix; all Phoenix stations in
- 97.5 KVNA, 88.7 KNAU, 93.9 KMGH AZ Flagstaff
- 104.3 KRIM AZ Payson- strong in stereo with oldies
- 91.3 KSUT CO Ignacio- good ID, only 682 miles, and only runs 430 watts
- 88.9 KNMI, 90.9 KSJE NM Farmington (note the state, Mike- trb)
- 88.7 KRVS LA Lafayette- good with FF talk and cajun music
- 97.5 WABB AL Mobile- in for only 30-45 seconds, just caught an ID!
- 6.16.92 Tropo 0828-1045
- 91.9 KTCC KS Colby- T-92, only 100 watts
- 107.5 KSCB KS Liberal- country mx and south KS weather
- 105.7 KVAZ CO Lamar- good ID, 411 miles
- 94.7 KEBC, 88.9 KOCC, 92.5 KKNQ, 100.5 KATT OK Oklahoma City
- 92.1 KMZE, 102.3 KWDQ OK Woodward, farthest class A's heard via tropo at 376 miles
- 105.7 KWMW NM Maljamar- W-105, 718 miles! My farthest tropo catch!
- 105.1 KXKL, 106.7 KAZY, 103.5 KRFX CO Denver- 483 miles
- 107.5 KRXY CO Lakewood- Mix 107.5, ads for Rocky Mountain News, 487 miles
- 6.16.92 E-skip
- 105.1 XHIM, 98.3 XHPX CH Ciudad Juarez- 0916 and again at 1045
- 97.5 KBNA TX El Paso- 0918 Spanish, K-Buena
- 6.16.92 Propagation unknown
- 107.5 KZFX TX Lake Jackson- 1810-1859 Z-

- 107 and Houston traffic reports
- 99.1 KMAG AR Fort Smith- 1830 K-Mag
- 97.9 KZBB OK Poteau- 1842-1848 Power Music Station
- 107.5 KXKZ LA Rustin- 1858 Kicks country
- 6.17.92 Tropo
- 97.7 K249CKNE Beatrice- 0123 KGBI translator, STRONG in stereo!
- 6.17.92 E-skip 1446-1933
- 88.9 WERS, 94.5 WZOU MA Boston
- 88.9 WNYO NY Oswego, new stn on air, only 100 watts
- 89.1 WEVO NH Concord- mono, new state
- 92.7 WOXO ME Norway- Home of the Country, West Maine weather
- 97.5 WOKQ NH Dover- country
- 95.7 WFLN, 98.9 WUSL PA Philadelphia
- 93.7 WSTW, 99.5 WJBR DE Wilmington
- 102.3 WSJL NJ Cape May- rock
- 98.3 WXVA WV Charles Town- country, tough with KQKQ-98.5
- 102.1 WOWQ PA DuBois- local ads mentioning area towns
- 106.7 WRKZ PA Hershey- country
- 104.7 WSVS VA Crews- local KEYS makes 104.7 tough
- 107.5 WKRE VA Exmore- My 107.5
- 103.5 WGMG DC Washington- classical; my first from DC
- 88.5 WODC VA Virginia Beach- ID, asking for \$\$\$
- 97.5 WCOS, 103.1 WOMG, 104.7 WNOK SC Columbia
- 102.9 WOWI VA Norfolk- 103 Jams
- 89.1 WOTF VA Roanoke- ID, listed bands that will be playing in the area
- 99.3 WPLZ VA Petersburg
- 92.5 WNHWC Nags Head- Carolina 92
- 104.9 WMSQ NC Havelock- Q-105
- 106.5 WSFM NC Southport- Surf 107
- 106.5 WSFL NC New Bern- The New WSFL
- 105.7 WRSF NC Columbia- Surf 106
- 102.3 WMFX SC St. Andrews- Fox 102
- 93.1 WEAS GA Savannah
- 106.9 WLOW SC Bluffton
- 107.9 WIJY SC Hilton Head Island
- 107.1 WCLA GA Claxton- Atlanta Braves baseball
- 97.9 WXTB FL Clearwater- 98 Rock
- 93.7 WMMZ FL Ocala- Z-93
- 97.5 WPCV FL Winter Haven- 97 Country
- 103.1 WFKZ FL Plantation Key- Sun 103.1
- 96.5 WPOW, 93.1 WTMI, 107.5 WQBA FL Miami
- 107.1 WCKT FL Lehigh Acres- Cat Country
- 6.18.92 E-skip 2259-2359
- 88.9 WNSC SC Rock Hill- SC Public Radio
- 105.7 WZNY, 104.3 WBBQ, 102.3 WGUS GA Augusta

106  
WLAC FM



- 107.5 WBUB SC St. George- Bubba 107.5  
106.1 WFXH SC Hilton Head- over KKBZ-IA  
in same direction!  
102.7 WAJY SC New Ellenton- over KFRX-  
Lincoln!  
100.9 WYFA GA Waynesboro- religion  
100.1 WMCD GA Statesboro- Needed 100.1,  
Now heard a station on all freqs!  
97.1 WFOX, 106.7 WYAY GA Ginesville  
96.5 WJCL, 97.3 WAEV, 102.1 WZAT GA  
Savannah  
99.1 WQIK FL Jacksonville  
92.7 WKKZ GA Dublin- promo  
92.1 WDDQ GA Adel- Exit 10 Radio; format  
is all commercials promoting Adel  
92.9 WAAC GA Valdosta- contry  
97.5 KNLR, 105.7 KQAK OR Bend  
107.5 KLRR OR Redmond- Clear 107  
6.19.92 E-skip 0000-0236  
96.5 KLIK, 95.7 KEZJ ID Twin Falls  
97.7 KLCE ID Blackfoot- new frequency  
(from 97.3)  
102.9 KZRT ID Jerome- Z-103  
103.5 KRSP, 106.9 KSOP UT Salt Lake  
88.7 KUNR, 95.5 KNEV NV Reno  
92.5 KLAND OR Klamath Falls- country  
93.7 KTMT OR Medford  
91.5 KUSU UT Logan- sign off  
94.5 KMGE, 99.1 KPNW OR Eugene  
93.1 KSND OR Springfield- rap music  
97.5 KDLY WY Lander-ID; only 658 miles!  
99.1 KUPI ID Idaho Falls- Kewpi 99  
6.20.92 E-skip  
97.5 WWWV VA Charlottesville- 2018 3W-V.  
Brief opening (6 minutes)  
6.21.92 E-skip 1112-1212  
91.9 KDNA, 94.5 KATS WA Yakima  
94.9 KIOK, 89.1 KFAE WA Richland  
96.5 KTWI OR Warm Springs- Central  
OR's Classic Rock, The Twins 96.5 and  
98.3  
88.3 KBVM, 93.7 KPDQ, 97.1 KKSND, 95.5  
KXL, 99.5 KWJJ OR Portland  
103.3 KKCW OR Beaverton  
105.1 KXYQ OR Salem- Q-105

R J Edmunds WB2BJH, 753 Valley Rd, Blue  
Bell, PA 19422 Nissan car radio & whip  
Finally started to open up here, hi.  
Fortunately, I had some extra time to  
catch up on some of the DX this week!  
Other than 5/20, most of May was poor  
conditions.

- 107.9W300AD PA Philadelphia- 5.1.92  
1800 simul ID/test. classical mx  
translator of WWFM-89.1. On RS since,  
another frequency shot!  
98.3 WKTU NJ Ocean City- 5.20.92 0645  
Finally w/ROK, promo, ad under  
WGL-98.1 slop  
92.9 WZSN SC Dillon- 5.20.92 0655 Atop  
all w/ ROK, C&W, weather, promo, ID

- 99.7 WYFI VA Norfolk- 5.20.92 0700- w/  
REL, Upstate NY weather, REL mx, ID,  
news. I always get fooled by the end of  
the whole string of local weather on the  
bird.  
107.1 WQMR MD Federalsburg- 6.11.92 0930  
o/u WZVU w/ ROK, ID for return to air  
with new call. Seems weaker than  
before.  
93.9 WKYS DC Washington- 6.16.92 0708  
under WYSP-94.1 slop w/ SOL, ID  
96.7 WCEI MD Easton- 6.17.92 0715 under  
WWDB-96.5 slop w. Delmarva weather,  
SOL/MOR  
97.3 WGH VA Newport News- 6.17.92  
0723, with C&W, promo, traffic, ID  
100.5 WCMS VA Norfolk- 6.17.92 0712 with  
C&W, ads, weather, ID  
92.9 KTGL NE Beatrice- 6.17.92 1715 with  
two by Led Zeppelin, 'Lincoln's only  
Classic Rock- 92.9 The Eagle' then more  
music, ad for Nebraska Gem Exchange.  
(Russ, note city of license- trb)  
102.7 WSKR NJ Petersburg- 6.17.92 2208  
Promo for Forum Sports Net, then local  
sports talk. At this hour not // WIP-  
610 as heard during day. This is first  
time heard in PA.  
103.3 WESR VA Olney-Onacock- 6.17.92  
2210 with weather, ID, news  
102.3 WSUS NJ Franklin 6.18.92 0705 w/  
MOR, ID, traffic  
95.1 WRBS MD Baltimore- 6.18.92 0700  
atop usual WZZO/WAYV with ID,  
news  
107.3 WAAF MA Worcester- 6.18.92 0645  
with traffic, ad, ID  
92.9 UNID 6.17.92 1550 Heard o/u  
WGMS with classical Piano music, no  
ID on 1600 hour  
97.3 UNID 6.17.92 1729-1732 with canned  
religious programs, leaving one from  
Moonlight (fade) Ministries, PO Box  
(fade), South Pines, NC then into one  
from Cornerstone Family Ministries,  
with services from the Cornerstone  
Family Temple (sic). Very limited  
possibilities. Given band conditions,  
maybe KDMI-IA? (Mr. Dau, any ideas?-  
trb)



KWYS 98.5 FM • Five Point Oak Park, Suite 1200 • Houston, TX 77027

# Formats

Tony Fitzherbert

356 Jackman Avenue  
Fairfield, CT 06430-1728

## Changes in programming status; reported by listeners

Welcome to the midsummer edition of Formats. It is kind of quiet, with but one piece of mail. Bruce Reynolds writes that KEEN-1370, in San Jose had not dropped its country format as of the middle of May. Station management was contemplating a switch to an Asian format, but rival KSJX-1500 beat them to this format. KEEN then announced that because of listener and advertiser response the station would stay with country music.

Most of this column comes courtesy of the M Street Journal, whom we thank greatly for their help. The summer rail excursion is looming, so I hope to get some listening to local radio in between rides on Virginia's new VRE, MARC, the new Baltimore light rail, new Washington Metro extensions (including the 200 feet Wheaton station - not conducive to DX'ing!!), and Boston's MBTA commuter rail. Travel will be on the east coast only, because of the relative success of my seminar business. For formats, here we go!!!

- |      |      |    |                |  |
|------|------|----|----------------|--|
| 540  | KHVN | CA | Carmel Valley  | - SMN Adult standards (M).   |
| 620  | WKNI | AL | Lexington      | - News, talk (M).  |
| 750  | WRIK | IL | Brookport      | - TALK (M).  |
| 810  | WBYY | MI | Rockford       | - JSA Soft AC (M).   |
| 840  | WPGS | FL | Mims           | - Adult standards (M).   |
| 850  | KCTQ | CA | Thousand Oaks  | - New, Spanish Talk//KPLS (M).   |
| 860  | KCNR | UT | Salt Lake City | - Classic rock//FM (M).  |
| 920  | WPTX | MD | Lexington Park | - News, CWM, talk (M).   |
| 930  | WSLI | MS | Jackson        | - MOR, Contemporary Christian (M).   |
| 950  | WHVW | NY | Hyde Park      | - SMN Real CWM (M).  |
| 980  | WKOR | MS | Starkville     | - News, talk (M).  |
| 980  | WNBI | WI | Park Falls     | - SMN Standards (M).   |
| 990  | WIVK | TN | Knoxville      | - News, talk (M).  |
| 1010 | WERO | MD | Baltimore      | - Unis CNN Headline News (M).  |
| 1050 | WPZA | MI | Ann Arbor      | - News, sports, talk (M).  |
| 1070 | WANM | FL | Tallahassee    | - Drops UC for CNN Headline News (M).  |
| 1110 | WJML | MI | Petoskey       | - Unis CNN Headline News (M).  |
| 1140 | KSLD | AK | Soldatna       | - Was KCSY, AC, now SMN Pure oldies (M).   |
| 1190 | WMRE | PA | Hughsville     | - Unis standards //WHTO (M).   |
| 1200 | WKOX | MA | Framingham     | - News, talk, sports (M).  |
| 1200 | WNSW | ME | Brewer         | - Unis CNN Headline News (M).  |
| 1200 | WCHB | MI | Taylor         | - Dumps its UC format and outstanding gospel show for talk!! (TF from M).  |
| 1230 | KDAC | CA | Fort Bragg     | - AC (M).  |
| 1230 | KMUZ | OR | Gresham        | - Was KKGR, now AC (M).  |
| 1270 | KVCL | LA | Winnfield      | - JSA CWM//FM (M).   |
| 1280 | WGTX | FL | Funia Springs  | - CWM, talk (M).   |
| 1300 | KPTL | NV | Carson City    | - Adult standards (M).   |
| 1320 | KCPV | UT | Salt Lake City | - Unis CNN Headline News (M).  |
| 1340 | WSOY | IL | Decatur        | - News, talk (M).  |
| 1340 | KCQL | NM | Aztec          | - Unis oldies (M).   |
| 1350 | WBSK | VA | Portsmouth     | - SMN Urban AC (M).  |
| 1360 | KSCJ | IA | Sioux City     | - News, talk (M).  |
| 1360 | WSAI | OH | Cincinnati     | - SEN Sports (M).  |
| 1400 | KCLA | AR | Pine Bluff     | - CWM//KBPQ-FM (M).  |
| 1400 | KKZZ | CA | Santa Paula    | - Unis Standards (M).  |
| 1400 | KAYS | KS | Hays           | - Unis oldies (M).   |
| 1440 | WLPZ | ME | Westbrook      | - Dumps rock for BRN Business News (M). How the mighty has totally toppled..in the late 1950's, 1440 was WJAB "The Mighty JAB", perhaps the most listened to Top 40 station north of Boston. Its 5000 watt signal covered much of southern Maine and New Hampshire (TF). |
| 1450 | KKXO | OR | Eugene         | - Unis standards (M).  |
| 1460 | KULA | HI | Honolulu       | - Unis standards (M).  |
| 1460 | NEWO | NC | Laurinburg     | - Unis oldies (M).   |
| 1460 | WIMX | PA | Harrisburg     | - News, talk (M).  |
| 1570 | KPYK | TX | Terrell        | - Soft AC (M).   |
| 1590 | WSMN | NH | Nashua         | - CWM "Country 1590" (M). With WQQW silent, and 1590, in Portland long gone, this ought to be a fairly easy log for east coast DX'ers (TF).  |
| 1600 | WQBR | FL | Atlantic Beach | - To be religion (M).  |
| 1600 | WTZQ | NC | Hendersonville | - SMN Standards (M).   |



KYON • KVVH

1124 Foster Road  
Napa, CA 94558

73' 7"

Thanks to the M Street Journal for this column. For all of you, as you travel this summer, do share the formats that you hear with your fellow DX'ers via this column.



# Barry S. Finkel

10314 S. Oakley  
Chicago, IL 60643-2409

Network listings for team sports stations

Here is a lot of Major League Baseball information; it comes from a number of sources. These people sent me network lists: Duncan Shaw; Bob Galerstein, who sent me many copies of team media guides; Ken Onyschuk, who also sent me flagship information; Todd Brandenburg, who also sent me flagship information; Robert A. Karchewski; Mike Brooker. The list of announcers comes from *USA Today* 4/6/1992 with corrections from the media guides. The reason this information is late in being published is twofold - first the volume of information and the data entry involved, and second the multiple copies of lists that I received dictated that I compare them and note differences. I also note stations that appear in two lists; no station appears in more than two lists.

An additional note - this column was also delayed because Paul Swearingen was unable to read the first diskette I sent him (my first attempt at sending the file via diskette).

Please send me any lists that you have that do not appear here. Thanks.

Atlanta Braves 640 WGST-GA Pete Van Wieren, Skip Caray, Don Sutton

94.9 WPCH-GA

Baltimore Orioles 1090 WBAL-MD Jon Miller, Joe Angel, Chuck Thompson

Boston Red Sox 680 WRKO-MA Bob Starr, Joe Castiglione

950 WROL-MA SS Hector Martinez, Bobby Serano

California Angels 710 KMPX-CA Al Conin, Bob Jamison

1090 XPRS-BC SS ??

Chicago White Sox 670 WMAQ-IL John Rooney, Ed Farmer

1300 WTAQ-IL SS Chico Carrasquel, Teofilo Garcia,

Frank Diaz

Chicago Cubs 720 WGN-IL Thom Brennaman, Ron Santo, Harry Caray

1200 WOPA-IL SS ??

Cleveland Indians 1220 WKNR-OH Herb Score, Tom Hamilton

Cincinnati Redlegs 700 WLW-OH Marty Brennaman, Joe Nuxhall

Detroit Tigers 760 WJR-MI Rick Rizzs, Bob Rathbun

Houston Astros 940 KPRC-TX Milo Hamilton, Larry Dierker, Bill Brown,

Vince Cotronoe

1320 KXYZ-TX SS Orlando Sanchez Diago, Rolando Bacerra

Kansas City Royals 580 WIBW-KS Denny Matthews, Fred White

Los Angeles Dodgers 790 KABC-CA Vin Scully, Don Drysdale

1330 KWKW-CA SS Jaime Jardin, Rene Cardinas

Milwaukee Brewers 620 WTMJ-WI Bob Uecker, Pat Hughes

Minnesota Twins 830 WCCO-MN Herb Carneal, John Gordon

Montreal Expos 600 CICQ-PQ Dave Van Horne, Ken Singleton,

Bobby Winkles, Elliott Price

730 CKAC-PQ FF Jacques Doucet, Rodger Brulotte,

Claude Raymond, Alain Chantelois

New York Mets 660 WFAN-NY Bob Murphy, Gary Cohen

New York Yankees 770 WABC-NY John Sterling, Michael Kay

Oakland Athletics 560 KSFO-CA Bill King, Lon Simmons, Ray Fosse

1430 KNTA-CA SS Amaury Pi-Gonzalez, Erwin Higueros

Philadelphia Phillies 1210 WOGL-PA Harry Kalas, Richie Ashburn, Andy Musser

Pittsburgh Pirates 1020 KDKA-PA Lanny Frattare, Jim Rooker, Steve Blass,

Kent Derdivanis

Saint Louis Cardinals 1120 KMOX-MO Jack Buck, Mike Shannon, Joe Buck

San Diego Padres 760 KFMB-CA Jerry Coleman, Rick Monday, Bob Chandler,

Ted Leitner

1420 XEXX-BC SS Marlo Thomas Zapaian, Matias Santos

Eduardo Ortega

San Francisco Giants 680 KNBR-CA Hank Greenwald, Ron Fairly

1170 KLOK-CA SS Carlos Rivera, Tito Fuentes

Seattle Mariners 710 KIRO-WA Dave Niehaus, Ken Levine



Texas Rangers 820 WBAP-TX Mark Holtz, Eric Nadel

910 KXEB-TX SS Jorge Infante, Mario Montez

Toronto Blue Jays 1430 CJCL-ON Tom Cheek, Jerry Howarth

Boston Red Sox 1991 Bob Starr, Joe Castiglione (via Bob Galerstein & Duncan Shaw)

550 WDEV-VT	1230 WNAW-MA	1320 WWT-VT	1400 WTSL-NH	1510 WNLC-CT
560 WHYN-MA	WJOY-VT	1340 WGAU-MA a	1420 WBSM-MA	
580 WTAG-MA	WTSV-NH	WDMC-ME a	WLIS-CT	92.7 WOXO-ME
600 WFST-ME	WQDY-ME	WSTJ-VT	WBEC-MA a	95.9 WUPE-MA b
610 WGIR-NH	WERI-RI	WHOU-ME	1440 WKZN-ME	99.3 WKTY-ME
630 WPRO-RI	WMOU-NH a	1350 WINY-CT	1450 WKXL-NH	100.1 WQVR-MA a
680 WRKO-MA	1240 WHAI-MA	1360 WHNR-FL a	1470 WTSX-VT	100.7 WTBH-ME
730 WJTO-ME b	WSYY-ME	1370 WDEA-ME	1470 WSRO-MA a	101.9 WCIB-MA
800 WLAD-CT	1250 WARE-MA	1380 WKTJ-ME	1480 WSAR-MA	102.3 WKXL-NH a
860 WSBS-MA	1270 WTSN-NH	WSYB-VT	1490 WFAD-VT	102.5 WQSS-ME
870 WLAH-ME b	1280 WELM-MA	1400 WLLI-CT	WEMJ-NH	
910 WABI-ME	WABK-ME	WIDE-ME	WLKE-VT	
970 WESO-MA	1290 WKNE-NH	WHMP-MA	WMRC-MA	
1080 WTIC-CT	1300 WPNH-NH a	WLTN-NH	WTVL-ME	

a This station is not in the BG list, but in the DS list.

b This station is not in the DS list, but in the BG list.

Boston Red Sox (SS) Hector Martinez, Bobby Serano (via Bob Galerstein & Duncan Shaw)

730 WACE-MA	950 WROL-MA	1220 WXCT-CT
800 WCCM-MA	1220 WRIB-RI	1230 WLVH-CT

California Angels Al Conin, Bob Jamison (via Bob Galerstein & Duncan Shaw)

590 KRSO-CA	1150 KCKY-AZ b+	1340 KIKO-AZ	1380 KLPZ-AZ	1590 KCIN-CA b
600 KKLO-CA a	1230 KPRL-CA	KVOY-CA	1400 KKZZ-CA	
710 KMPX-CA	KLAV-NV	KGLW-CA b	KTUC-AZ +	92.9 KSFO-CA a
920 KDES-CA	KMGR-UT	1350 KRID-CA	KEYX-CA	
1080 KWAI-HI	1240 KSMA-CA	1360 KNNZ-AZ	1430 KAMP-CA	

a This station is not in the BG list, but in the DS list.

b This station is not in the DS list, but in the BG list.

+ This station carries two MLB teams.

Philadelphia Phillies Harry Kalas, Richie Ashburn, Andy Musser (via Bob Galerstein)

590 WARM-PA	1210 WOGL-PA	1320 WGET-PA	1400 WOND-NJ	1490 WNBT-PA
790 WAEB-PA	1230 WBPZ-PA	1350 WOYK-PA	1420 WCOJ-PA	1570 WBUX-PA
850 WEEU-PA	WCMC-NJ	1360 WPPA-PA	1490 WAZL-PA	_____ W-PA t
860 WGUL-FL	1240 WYGL-PA	1390 WKLP-WV	WLPA-PA +	
1150 WDEL-DE	1270 WLBR-PA +	1400 WRAK-PA	WBCB-PA	105.5 WCHX-PA

t The station in Harrisburg, PA is to be announced.

+ This station carries two MLB teams.

Cleveland Indians (as of 1/27/92) Herb Score, Tom Hamilton (via Bob Galerstein)

900 WFRO-OH	1340 WKSX-NY	1480 WHBC-OH	1550 WDLR-OH	98.3 WJMR-OH
910 WBRJ-OH	1370 WWCN-PA	1490 WMRN-OH	1570 WBUZ-NY	99.1 WFRO-OH
970 WFUN-OH	1400 WMAN-OH	1510 WLKR-OH		100.9 WQCT-OH
1220 WKNR-OH	1430 WCLT-OH	1520 WBNO-OH	92.7 WQEL-OH	104.5 WQKT-OH
1240 WBBW-OH	WFOB-OH	1540 WBCO-OH	95.3 WLKR-OH	107.1 WDOH-OH
1260 WRIF-PA	1450 WLEC-OH	WTBC-OH	96.7 WFOB-OH	

San Francisco Giants Hank Greenwald, Ron Fairly (via Bob Galerstein)

600 KHTE-CA	990 KHVH-HI	1230 KDAC-CA	1300 KYNO-CA	1540 KLAU-CA
620 KWSN-CA	1150 KBAI-CA	1240 KSUE-CA	1340 KATA-CA	1560 KIQS-CA
680 KNBR-CA	KAGO-OR	1270 KPLY-NV	1360 KFIW-CA	
730 KBOY-OR	1170 KLOK-CA SS	KJUG-CA	1380 KSMJ-CA	

Milwaukee Brewers Bob Uecker, Pat Hughes (via Bob Galerstein & Duncan Shaw)

550 WSAU-WI	1150 WHBY-WI b	1330 WHBL-WI	1550 WMIR-WI	94.5 WRJO-WI
570 WMAH-WI	1230 WCLO-WI	1340 WLDY-WI	WEVR-WI	95.9 WRDN-WI
580 WKTY-WI	WIKB-WI	1380 WBEL-WI	1580 WPTN-WI	96.3 WJMC-WI
590 WJMS-MI	1240 WGBT-WI	1400 WBIZ-WI	1590 WTOQ-WI	96.7 WATW-WI
620 WTMJ-WI	WJMC-WI	WATW-WI		97.1 WCOH-WI
680 WDBC-MI	WOMT-WI	WRDB-WI	92.1 WRJC-WI	98.3 WCOM-WI
910 WDOR-WI	WJPD-WI	1430 WRDN-WI	WRLS-WI	99.1 WIKB-WI
960 WTCH-WI	1260 WEKZ-WI	WBEV-WI	92.3 WJPD-WI	99.3 WIGM-WI
970 KXTP-WI	WWIS-WI	1440 WNFL-PT	92.7 WLDY-WI	100.1 WDDC-WI
980 WPRE-WI	1270 WRJC-WI	1450 WDLB-WI	WDUX-WI	100.9 WRCO-WI





1010 WSPQ-WI	1290 WCON-WI	KFIZ-WI	93.7 WEKZ-WI	102.3 WISS-WI
1050 WLIP-WI	1310 WIBA-WI	WRCO-WI	93.9 WDOR-WI	105.3 WRLO-WI
1090 WISS-WI	1320 WFHR-WI	1490 WTGM-WI	94.3 WPRE-WI	106.3 WEVR-WI

b This station is not in the DS list, but in the BG list.

## Minnesota Twins

Herb Carneal, John Gordon  
(via Bob Galerstein & Duncan Shaw)

610 WDAL-MN	1190 KWMB-MN	1340 KTOQ-SD	1450 WELY-MN	94.3 KMRS-MN
660 KEYZ-ND	1220 KOMG-IA b	KWLM-MN	KATE-MN	KDOM-MN
730 KWQA-MN	1230 KWNO-MN	KXPO-ND	KBMW-ND	101.7 KOLV-MN
790 KFGO-ND	KGHS-MN	KIJV-SD	1460 KLTC-ND	102.5 KQLW-MN a
800 KQAD-MN	KTRF-MN	1380 KLIZ-MN	1470 KWSL-IA	102.9 KBWS-SD
830 WCCO-MN	1240 KDLR-ND	WCRM-FL	1480 KAUS-MN	103.1 KFIL-MN
860 KNUJ-MN	WJON-MN	1390 KRRZ-ND	KGCX-MT	103.3 KJJK-MN
870 KRPM-MN a	1260 KROK-MN	1400 KEYL-MN	1490 KOVC-ND	105.5 KMGM-MN
920 KWAD-MN a	1270 KXLL-ND	KMHL-MN	KNDL-ND	105.9 KMIT-SD
930 KSDN-SD	1290 KSCR-MN	KVFD-IA	1510 KMDS-SD	106.1 KQLX-ND
950 KWAT-SD	1300 KGLC-IA	WHLB-MN	1560 KDOH-MN	106.3 KRJB-MN
1060 KFJL-MN	1310 KNOX-ND	1410 KHOL-ND		
KGFY-SD	1320 KOZY-MN	1420 KTOE-MN	92.1 KOWO-MN	
1140 KSOO-SD	1340 KROC-MN	1430 KBRK-SD	WYRO-MN	
1170 KOWO-MN	KDLM-MN	1450 KBUN-MN	93.5 KSCR-MN	

a This station is not in the BG list, but in the DS list.

b This station is not in the DS list, but in the BG list.

## Oakland Athletics

Bill King, Lon Simmons, Ray Fosse  
(via Bob Galerstein & Duncan Shaw)

560 KSFO-CA	980 KINS-CA	1320 KCTC-CA	1410 KMYC-CA	1490 KRRC-CA
570 KCNO-CA	1240 KNRY-CA	1340 KBOS-CA	1450 KOZZ-NV	KBLF-CA
580 KCMX-OR	1270 KXBX-CA	1400 KQMS-CA	KTIP-CA	
950 KAHJ-CA	1280 KJAX-CA	KKCB-CA	KVML-CA	
970 KROK-CA	1300 KPMO-CA	KUKI-CA	1480 KYOS-CA	

## Seattle Mariners

Dave Niehaus, Ken Levine  
(via Bob Galerstein & Duncan Shaw)

550 KENI-AK w	920 KXLY-WA	1240 KGY -WA	1340 KLKI-WA	1550 KVAN-WA
600 KGEZ-MT p	990 KRRK-OR	KWIK-ID p	1360 KUIK-OR	1600 KEED-OR a
650 KQOO-WA q	1030 KMAS-WA	KPRB-OR w	1370 KAST-OR a	
680 WQW-WA w	1150 KQOO-WA q	1280 KIT -WA	1400 RLCK-WA b	95.9 KULE-WA
710 KIRO-WA	1170 KPUG-WA	1320 KKRO-WA	1450 KONP-WA	97.1 KNSN-WA
730 KULE-WA	1230 KVAS-OR b	CHQM-BC a	KGRZ-MT w	
800 KINY-AK w	1240 KCVL-WA	1340 KIHRR-OR ua	1490 KVAC-WA	
870 KORD-WA	KXLE-WA	KWWW-WA	KLOG-WA	

a This station is not in the BG list, but in the DS list.

b This station is not in the DS list, but in the BG list.

p This station airs only selected games.

q What frequency is KQOO-WA -- 650 or 1150?

u This station is pending; it would air only selected games.

w This station airs weekend games only.

## Toronto Blue Jays (Telemedia Radio Network) Tom Cheek, Jerry Howarth

(via Bob Galerstein, Duncan Shaw, and Mike Brooker)

560 CFOS-ON	900 CHML-ON	1240 CJCS-ON	1430 CJCL-ON *	94.9 CKPE-NS
580 CKWW-ON k	910 CKLY-ON	1270 CJTN-ON	1450 CHUC-ON	96.3 CFMK-ON 1
680 CJOB-ON j	930 CRNS-ON	1280 CJSL-SK	CFAB-NS	96.7 CKGL-ON
710 CJRN-ON	950 CBBB-ON	1290 CJBR-ON	1480 CKAN-ON s	100.9 CFBG-ON
CHVR-ON j	1050 CFYN-ON	1320 CJMR-ON	1490 CKEN-NS	101.9 CHQO-ON
730 CHVR-ON j	1070 CHOK-ON	1340 CKNR-ON	CFPS-ON	CKAT-ON
CJNR-ON	1190 CFSL-SK	1350 CKAD-NS	1570 CKMW-MB	103.3 CKDY-NS 1
750 CKGB-ON	1230 CKMP-ON	CKDO-ON	CFOR-ON	
790 CIGM-ON	CJTT-ON j	1400 CKCB-ON	1600 CHNR-ON	
880 CKLQ-ON	1240 CJRW-PI k	1420 CKDY-ON		

j This station is not in the BG nor MB lists, but in the DS list.

k This station is not in the DS list, but in the BG AND MB lists.

l This station is not in the BG nor GS lists, but in MB list.

s This station is silent.

## Chicago Cubs

Thom Brennaman, Ron Santo, Harry Caray  
(via Bob Galerstein, Ken Onyschuk, and Duncan Shaw)

570 WNAX-SD	1150 KDEF-NM	1410 WGRD-MI	1550 KAPE-MO	95.9 WKUZ-IN
720 WGM -IL	1270 WKMT-MI d	1420 WOC -IA c	WJIL-IL	96.9 WLBH-IL
740 WLWI-AL	1290 WIRL-IL	1440 WGM-IL	KIWA-IA	97.7 WMOI-IL
910 WAKO-IL	1310 KOXK-IA +	1450 WCVS-IL	WCSJ-IL	WFRX-IL +
920 WMOK-IL	1320 WNGO-KY	WASK-IN	WFRJ-IL +	98.3 KENB-IA c
930 WHON-IN +	1330 WRAM-IL	WLYV-IN +	WIFF-IN +	98.5 WXXQ-IL
960 WSBT-IN	1350 KRNT-IA	1460 WUFI-IL	1590 KWBG-IA	102.3 WRHL-IL

1020 WCIL-IL	1370 KLBA-IA c+	WKAM-IN	WPCO-IN	103.1 WAKO-IL
1050 WDEZ -IL	KDTH-IA	1470 WQSN-MI	1600 KCRG-IA	104.9 WAXI-IN
WYCA-IN	KCTM-IA	WHUT-IN	WCWC-IN	105.5 KIWA-IA
1060 WNOE-IA c	1390 KLMT-IA	1480 WRSW-IN		107.1 WBNI-IL
WRHL-IL +	1400 KTUC-AZ +	1490 WDMN-IL	94.3 WNEZ-IN	107.3 WRSW-IN
1090 KYBG-CO	KADR-IA	1510 WINU-IL	KJNZ-IN	
1150 KCKY-AZ +	WBAT-IN	1540 WBNI-IL	95.3 WRXX-IL	

c This station is not in the KO list, but in the DS and BG lists.

d This station is not in the DS nor BG lists, but in the KO list.

+ This station carries two MLB teams.

## Cincinnati Redlegs

Marty Brennaman, Joe Nuxhall

(via Bob Galerstein & Duncan Shaw)

560 WJLS-WV	1240 WFTM-KY	1400 WVRG-WV a	92.1 WMOR-KY	102.3 WCYN-KY
580 WCHS-WV	1250 WOFR-OH	WPAY-OH	WMPO-KY	102.5 WHIZ-OH
610 WTVN-OH	1260 WNDL-IN	WCYN-KY	92.7 WCMI-KY	103.1 WRAU-KY
680 WCTT-KY	1290 WVOW-WV	WBTH-WV	94.3 WKRI-OH	103.6 WBKW-WV b
700 WLW -OH	WATO-TN	1440 WMDJ-KY	WRCR-IN	103.9 WIMC-IN
740 WRNR-WV	WHIO-OH	WPGW-IN	95.3 WNDL-IN	WRBI-IN
790 WKRY-KY	1300 WLKG-OH b	1450 WKVW-IN	95.7 WPTW-OH	WKXQ-KY
810 WEKG-KY a	1320 WLOH-OH	1490 WBEK-OH	95.9 WFTM-KY	104.1 WPAV-OH
850 WUTK-TN	1330 WFLN-OH	WFKY-KY	96.1 WVNS-WV a	WLYC-IN r
910 WFNS-FL	WKOV-OH	WKBV-IN	96.7 WKOV-OH	104.9 WWWY-IN
920 WTCN-KY	WTRT-IN	WOMI-KY	97.7 WJSN-KY a	WKRC-OHnm
930 WTKZ-WV a	WMOR-KY x	WSIP-KY	99.5 WJLS-WV a	WKYV-KY
WRWC-WV b	1340 WKRM-TN b	WMOA-OH	99.9 WCHS-WV	bz105.1 WRNZ-KY
970 WATH-OH	WKMI-KY a	WJDC-TN b	100.1 WMDJ-KY a	105.5 WCHO-OH
990 WJEH-OH	WBGN-KY	1520 WOOO-IN	100.3 WCNB-IN	105.9 WKWC-OHnm
1050 WGAT-VA	WLBZ-IN	1550 WCVL-IN +	100.9 WPGW-IN	106.1 WINN-IN
1110 WCBR-KY	WKCB-KY a	WNDI-IN	WJAM-OH a	WRZZ-WV
1150 WIMA-OH	1370 WGOH-KY	1560 WQXY-KY	101.5 WGTB-OH	106.7 WSRW-OH
1230 WIRO-OH	WDEF-TN a	1580 WIFE-IN	101.7 WMCQ-KY b	107.1 WKCB-KY
1240 WHIZ-OH	1380 WHRG-KY v	1590 WSRW-OH a	101.9 WVOW-WV	107.3 WCTT-KY
WHBU-IN	1390 WPMO-OH	1600 WBLV-OH	102.3 WUGO-KY	WFPC IN
WSFC-KY	WELL-OH			

a This station is not in the BG list, but in the DS list.

b This station is not in the DS list, but in the BG list.

m The DS list has 104.9; the BG list has 105.9. Which is correct?

n This station airs night games only.

r The BG list has 97.4 WLBZ-IN.

v The BG list has 1280 WHRG-KY.

x The DS list has 1240 WWRG-KY.

z The BG list has 99.6.

+ This station carries two MLB teams.

## Los Angeles Dodgers

Vin Scully, Don Drysdale

(via Bob Galerstein, Duncan Shaw, & Robert Karchevski)

550 KOY -AZ	920 KVEC-CA	1240 KLOA-CA	1320 KHSH-CA	1490 KMET-CA
610 KAVL-CA	930 KAPR-AZ	KJAA-AZ	1340 WSTA-VI p	KBAS-AZ
690 KVNA-AZ	950 KNFT-NM	1250 KTMS-CA	1370 WAXE-FL	KYCA-AZ f
720 KDWN-NV	990 KTKT-AZ	1280 KDOL-NV e+	1400 KEYX-CA g	1560 KNZR-CA
790 KABC-CA	1140 KCMJ-CA	1290 KMEN-CA	1440 KULH-CA	
800 KSOS-UT	1230 KYVA-NM p	1300 KROP-CA	1450 KVEN-CA	95.3 KKRZ-AZ p
910 KVVQ-CA	KBOV-CA	1310 KIQO-CA	KGRN-CO p	

e This station is not in the DS list, but in the BG & RK lists.

f This station is not in the BG and RK lists, but in the DS list.

g This station is not in the DS or BG lists, but in RK list.

p This station airs only selected games.

+ This station carries two MLB teams.

## Los Angeles Dodgers (SS) Jaime Jardín, René Cardenas

(via Bob Galerstein, Duncan Shaw, & Robert Karchevski)

810 WKEM-PR p	1280 KDOL-NV +	1480 KSBQ-CA f		
910 KOXR-CA	1330 KWKW-CA	1510 KNSE-CA		

f This station is not in the BG & RK lists, but in the DS list.

p This station airs only selected games.

+ This station carries two MLB teams.

## Saint Louis Cardinals

Jack Buck, Mike Shannon, Joe Buck

(via Duncan Shaw)

560 WBBO-NM	1230 WHCO-IL	1410 KGRM-IA	92.7 WRAJ-IL	100.1 KYFM-OK
740 WVLN-IL	KCON-AR	1420 WINI-IL +	KCZY-IA	100.3 KGAR-MO
800 KAGH-AR	1240 KTLO-AR	KKOW-AR	92.9 WSEI-IL	100.9 KTUI-MO
860 KOSE-AR	WTAH-IL +	1430 WYHC-KY	93.5 WKBL-TN	101.5 KTKR-MO
WSON-KY	WBEQ-IL	1440 WRAJ-IL	94.1 WGFA-IL	101.7 KJFM-MO
900 KHOZ-AR	WBIZ-IA	1450 WDXR-KY	94.3 WDXR-KY	WTAY-IL +
KFAL-MO	WENK-TN	KWPM-MO	KOMX-MO	102.3 RCAQ-IA
910 KAMD-AR	KWOS-MO	KIRX-MO	94.9 KWOC-MO	WCBL-KY
930 WTAD-IL o	WWZQ-MS	WKET-IL	95.1 KLGS-MO	KJPM-MO



940 WMIX-IL	1250 KFOE-MO	1460 WIXN-IL	95.3 WMSK-KY	KDEX-MO
960 KZIM-MO	1250 WRAY-IN	1460 WROY-IL	KOKX-IA	WRMJ-IL
980 WITY-IL +	1270 WEIC-IL +	1470 WMBD-IL	KMAQ-IA	102.9 KEZS-MO
1050 KSTS-MO	1310 KOKX-IA +	1470 WNAU-MS	95.7 WCRC-IL	103.1 KLOW-MO
1070 KJMO-MO	1330 WTRO-TN	1480 WTHI-IN	95.9 KCHA-IA	103.9 KCYN-IL
1090 WCRA-IL	1340 KXEO-MO	1490 WRKO-IL	KSNR-AR	WXIS-TN
1120 KMOX-MO	KSMO-MO	KDRS-AR	KRHO-MO	104.7 KRES-MO
1130 WSUP-KY	KBTI-AR	1500 WGEN-IL +	96.7 KMEM-MO	104.9 WGEN-IL +
1220 KJAN-IA	WBOY-IL	1520 KMP-L-MO	WFML-IN	KPWB-MO
WLPD-IL	WBLW-IN	WLUV-IL +	WKXQ-IL	KAGH-AR
1230 WBBZ-OK	WJFF-IL	1550 WMSK-KY	WLUV-IL +	105.3 WJZZ-MS
KBTM-AR	1360 WQFA-IL	KSFT-MO	97.5 WBBB-IL	105.5 KOKR-AR
WHOP-KY	1390 WJCS-TN	1570 WTAY-IL +	KOEA-IA	KTEI-MO
WJBC-IL	KCRC-OR	1580 WAMN-IN	98.1 WRAY-IN	KTLJ-IA
FWAS-MO	1400 WDWS-IL	KCHA-IA	98.3 WBYS-IL +	106.3 KMIS-MO
KLWT-MO	WGIL-IL	WBBA-IL	KTLO-AR	107.1 WBLA-IL
KFPW-AR	KFRU-MO	1590 KDEX-MO	99.3 WZLT-TN	107.7 WAMH-IN
WLLR-IA	1410 WTIM-IL		99.9 WOOZ-IL	

o The DS list has 930 WGEM-IL.  
+ This station carries two MLB teams.

**Baltimore Orioles** Jon Miller, Joe Angel, Chuck Thompson  
(via Bob Galerstein)

800 WCHA-PA	1090 WBAL-MD	1340 WBAP-VA	1490 WLPA-PA +	105.7 WLCC-PA
910 WSBA-PA	1200 WAGE-VA	1400 WKAV-VA	WARR-MD	106.3 WCEM-MD
920 WPTX-MD	1240 WTOP-PA	WINC-PA	1500 WTOP-DC	
930 WFMD-MD	1260 WNRK-DE	1430 WNAV-MD	1590 WEPT-MD	
970 WAMD-MD	1270 WLBK-PA +	1450 WTBO-MD	1600 WPDC-PA +	
1000 WIOO-PA +	1280 WHVR-PA	WFXB-PA		

+ This station carries two MLB teams.

**Pittsburgh Pirates** Lanny Frattare, Jim Rooker, Steve Blass, Kent Derdivanis  
(via Bob Galerstein & Duncan Shaw)

590 WMBS-PA	1160 WCCS-PA	1400 WKBT-PA	1480 WCNB-PA	
600 WFRM-PA	1270 WCBC-MD	1420 WBRD-FL	1490 WESB-PA	92.1 WKIE-MD
940 WESA-PA	1280 WKST-PA	1430 WEIR-WV	AOHI-OH	93.5 WBNV-OH
990 WTIG-OH	1310 WNAE-PA	WVAM-PA	WTCS-WV	95.3 WELK-WV
WVSC-PA	1330 WETZ WV	1440 WAJR WV	WMGW-PA	100.9 WRAX-PA
1000 WIOO-PA +	1340 WTRN-PA	1450 WJPA-PA	WKQS-PA	102.1 WWOQ-PA
1010 WIOI-OH	WCVI-PA	WFRP-PA	WNUJ-PA	103.1 WYAN-PA
1020 KDKA-PA	WHAR-WV	WEYZ-PA	1540 WECZ-PA	105.5 WXPZ-PA
1050 WMSG-MD	1390 WHOT-OH	WMAJ-PA	1580 WAMB-PA	107.1 WEXC-PA
WADC-WV	1400 WAMQ-PA	1460 WMEA-PA	1590 WCBG-PA	
1150 WHUN-PA	WKWK-WV	1470 WZGO-PA	1600 WPBC-PA +	

b This station is not in the DS list, but in the BG list.

y The DS list has 96.7

+ This station carries two MLB teams.

**Chicago White Sox** John Rooney, Ed Farmer  
(via Bob Galerstein & Ken Onyschuk)

670 WMAQ-IL	1240 WSDR-IL	1420 WIMS-IN	1560 WRIN-IN	97.7 WFRX-IL p+
860 WCOM-IN	1270 WEIC-IL +	WINT-IL	1570 WTAY-IL p+	98.1 WBNB-IN
930 WHON-IN	1290 KLFH-IA h	1450 WLYV-IN +	WIFF-IN p+	98.3 WBYS-IL +
980 WITY-IL p+	KLEH-IA	1490 WZOE-IL	WFER-IL h+	101.7 WTAY-IL p+
1060 WRHL-IL	1320 KNIA-IA h	1500 WGEN-IL p+	1580 WAMJ-IL	104.9 WCVL-IN
1220 WQSA-FL	WKAN-IL	1520 WLUV-IL +	WGEN-IL p+	
1230 WSAI-IN	1370 KLBA-IA +	1550 WCVL-IN +	95.7 WLRX-IN	105.5 WDND-IL p
1240 WTAX-IL p+	1390 WZZB-IN h	WMDH-IN	96.7 WLUV-IL	107.7 WMRS-IN

d This station is not in the DS nor BG lists, but in the KO list.

h This station is not in the BG list, but in the KO list.

p This station airs only selected games.

+ This station carries two MLB teams.

Notes d and h and + apply to this station.

**Kansas City Royals** Denny Matthews, Fred White  
(via Todd Brandenburg from 4/5/92 "Kansas City Star")

560 KWTO-MO	1240 KFOR-NE	1430 KRGT-NE	1600 KMDO-KS	99.3 KUPT-NE
580 WISN-KS	KIUL-KS	KKOZ-MO	KRFS-NE	99.9 KZOK-MO
610 WDAF-MO	1270 KSCB-KS	1440 KCHE-IA	KNCY-NE	100.3 KQLS-KS
620 KMNS-IA	KTRT-OK	1450 KOKO-MO	KTTN-MO	100.7 KMZU-MO
680 KFEQ-MO	1280 KSOK-KS	WMBH-MO	100.9 KCZY-KS	
690 KGGF-KS	1290 KLEH-IA +	KWBW-KS	92.1 KTTN-MO	101.1 KBKR-CO
730 KLOB-KS	KWLS-KS	KLMX-NM	KCHE-IA	KPNF-KS
750 KJEL-MO	KOIL-NE	KBFS-SD	WCAZ-IL	101.7 KIMD-KS
790 KXXX-KS	1300 KMNO-MO	KYNT-SD	KMOE-MO	102.9 KMNO-MO
860 KKOW-KS	1310 KGMT-NE	1460 KKOY-KS	92.3 KBUG-MO	103.1 KNDY-KS
880 KRVN-NE	1330 KTOD-AR	1470 KERE-KS	92.7 KIDA-KS	103.7 KTRK-MO
930 KROE-WY	1340 KGEW-NE	1480 KZSN-KS	93.3 KZRK-MO	103.9 KCHI-MO

960 KNEB-NE	1350 KGRF-CO	1490 KKLQ-TA	93.5 RLKC-KS	KNZA-KS
KMA-IA	KMAN-KS	KDRD-MO	KWME-KS	KOMB-KS
990 KRSL-KS	1360 KSPG-KS	KTRX-MO	KTRX-MO	KRFB-NE
WCAZ-IL	1370 KGNV-KS	KDNO-MO	94.3 KZMO-MO	KNLV-NE
1010 KCHI-MO	KAGL-NE	1510 KANS-KS	94.5 KEZU-KS	105.3 KZMC-MO
1060 KLMO-CO	1390 KNCK-KS	KMRP-MO	95.3 KNIM-MO	105.5 KXXX-NE
KNLV-NE	1400 KVOE-KS	1530 KMAM-MO	KDKD-MO	KQSM-KS
1150 KRLA-KS	KAYS-KS	1540 KCKL-KS	KCKS-KS	KCOB-NE
KWKY-IA	KFTM-CO	1550 KLLC-KS	95.9 KAAH-MO	KFLR-IA
KRMS-MO	KBZZ-CO	1570 KLEK-KS	KKBL-MO	106.3 KYOO-MO
1190 KVSF-KS	KTMZ-OK	1570 KLEX-MO	KCAV-KS	106.5 KMCY-NE
1200 KYOO-MO	1420 KJCK-KS	1580 KTGR-MO	KANS-KS	
1220 KOMC-MO	KZMO-MO	KESM-MO	KBBE-KS	
1230 KTNK-NE	KULY-KS	RNIM-MO	97.7 KNCY-NE	
1240 KNEM-MO	KBTN-MO	1590 KVGB-KS	KAYO-MO	

+ This station carries two MLB teams.

## Radio Helps To Heal Wounds

L.A. Urban stations switch to talk programming; Power 106 pleads, 'Stop The Violence'; adult stations join in

A week after Los Angeles was torn apart by widespread violence and destructive rioting, Southern California's contemporary radio stations have taken a leading role in the attempt to restore peace and understanding to a badly shaken community.

Shortly after the not-guilty verdict in the Rodney King trial reverberated throughout L.A. last Wednesday (4/29), anarchy seemed to take over. And that's when radio kicked into high gear. Across the band, stations bolted from their formats to report the tension-filled events and make some sense of it all.

### Swift Reaction

Los Angeles Urban stations KJLH, KKBT and KGFI, and Dance CHR KPWR (Power 106) swiftly reacted to the verdict and the subsequent eruption of violence.

"As soon as the verdicts were known, we went on the air and carried the response," said KJLH COO Lee Michaels, whose studios lie in the heart of South Central L.A. "Within a half-hour, rioting and violence began to break out. At that point we suspended regular programming. Since then, we've been in a news/talk/information mode, taking calls from listeners."

The arson and looting hit too close to home for KJLH: "We [watched] the rioting and the violence right in front of us," Michaels said. "There are six or eight stores across the street that have been vandalized. And the Thrifty and Pep Boys stores in this neighborhood also burned."

### Network Coverage

The CBS Radio Network picked up KJLH's coverage on Thursday and fed it to its affiliates on a supplemental chan-

nel. KJLH personalities also did brief simulcasts with crosstown KPWR morning man Jay Thomas, KABC mudday talk host Michael Jackson, and KLOS morning men Mark & Brian.

Cliff Winston, Community Affairs Director/evening personality at crosstown KKBT, noted, "Immediately after the verdict was reached, our phones exploded. We had some community leaders stop by and went on the air with them. We did play some music, but the first day was mostly talk."

Winston said the station's request for food and clothing donations was met with an overwhelming response: "We were forced to get extra vans to take the items down to the various centers. In addition, we have a cab company offering \$1 rides for seniors who need to get groceries. On Sunday [5/3] we did a special community forum program, which featured the mayors of several local communities as well as black police officers."

KGFI broadcast live from First AME Church on the first evening of violence. Many civic leaders, including Mayor Tom Bradley, visited the church that night in a vain appeal for calm.

"We got there at 5:30pm, and by the time we left at 9pm the entire block was on fire; they were shooting in the streets," recalled KGFI owner Bill Shearer. "I had to duck gunfire to get back to my car. We went live talk from 8pm until the next morning."

Shearer said he wrote "black" on the front window of his station, located a few blocks outside the riot zone. "We don't know whether that made a difference, but we were spared. We're very pleased and blessed about that."

"The main thing people want now is specific information they can't get on TV, such as locations of check-cashing [establishments], gas stations, banks, and markets that are specific to the South Central community. We didn't focus on sensationalism like TV did, but rather on information."

### Adult Perspective

The riots also had a profound effect on Southern California's adult stations. Employees of Cox Talk/AC combo KFI & KOST evacuated studios and offices (4/30), leaving both stations off the air for about 20 minutes.

According to KOST MD Kim Amidon, "We were sitting in our music meeting at about 11am when a big fire [at nearby Thurd and Vermont] was set. We also heard that several nearby Korean businessmen were walking around with machine guns trying to protect their businesses. There was a feeling here that somebody might try to take over the radio station."

KRLA & KLSX, located a few blocks away from KFI & KOST, operated from its AM transmitter site for about 18 hours.

Though there were no major format breaks at Bonneville AC KBIG, the station is now telling listeners about organizations needing food, money, and clothing to benefit victims of the unrest.

### Venting Frustrations

During the three days of intense violence, Power 106 encouraged listeners to call its "Peace Line" so they could vent their frustrations on the air instead of on the streets.

Cummings and his staff are now looking toward the future. "In the aftermath of the violence we're all wondering what's next in our efforts to help L.A. heal. There is a fine line between being gratuitous and self-promoting, and then doing something that has merit and value for the community."

## N/T Perspective

KFI, KNX, KFWB, KABC rev up in crisis

In the wake of last week's destruction, L.A. Talk stations say they are determined to help the city heal. KFI, for example, is encouraging business owners to return to the riot-ravaged areas. A first step: provide plenty of on-air praise for establishments that have vowed to rebuild. And an effort to collect much-needed food for local victims. KABC talker Michael Jackson plans to air a remote from a supermarket located in one of the hard-hit communities.

Those actions follow air, in tense three days of news coverage. From the moment the Rodney King trial verdict was announced, L.A.'s all-news and Talk stations raced to keep up with a rapidly changing, unpredictable story that stretched from suburban San Valley and Los Angeles City Hall to numerous scenes of mayhem across the city.

"At first, we focused on getting the facts out," said KFI PD David Hall. "Stay calm" was our theme. We didn't want to stir it up — which goes against everything we've ever done [later], we let people vent — particularly those in the affected areas. We told them to vent on our air, not at some storefront."

## Radio and Records

-via Jerry Starr

# For Beginners

Jack Woods - P. O. Box 1003  
Waldport, OR 97394-0514

Information and advice of interest to inexperienced DX'ers

With the DX season approaching, you may be thinking of buying a new receiver. The purpose of this article is to discuss some of the terms found in receiver reviews and specifications, and how they relate to medium wave DXing.

**Sensitivity.** This term refers to the ability of the receiver to amplify incoming signals to a useable audio level. It is usually defined as that signal, measured in microvolts, necessary to raise the audio output of the receiver a specified amount, measured in db. In commonly-used receivers, sensitivity ranges from less than one microvolt to perhaps ten or fifteen microvolts. The sensitivity specification serves a useful purpose, but its importance in medium wave DXing is often over-emphasized. It is useful as a manufacturer's performance standard in determining if an individual receiver measures up. It is not of much use in comparing a receiver of one type to a receiver of a different type, unless the conditions of testing both are known to be the same. In real-world medium wave DXing, at most locations, the weakest signal which can be satisfactorily received is determined by the radio frequency noise level; not by receiver sensitivity. That is, a weak signal, "down in the noise," cannot be identified regardless of the sensitivity of the receiver. Differing opinions as to the level of sensitivity needed for medium wave DXing have been expressed in numerous articles over the years. It is this writer's opinion, based on experience with a variety of receivers, that almost any receiver in good condition, when used with an adequate antenna, has adequate sensitivity for medium wave DXing. At any rate, purchase of a receiver for this purpose for no other reason than its high level of sensitivity would seem unwise.

**Selectivity.** This is the ability of a receiver to reject unwanted signals while receiving the desired signal. It is very important in medium wave DXing. Selectivity is measured in terms of bandwidth. That is the band of frequencies received when the receiver is tuned to any single frequency. It is determined by the design of the receiver and the components used in manufacture. All radio signals which carry intelligence occupy some band of frequencies. CW (keyed carrier wave, such as by Morse code) requires the least bandwidth. In the medium wave band, orchestral music requires the most. Voice transmissions fall in between. Because radio frequency noise is distributed uniformly across the medium wave band, a bandwidth wider than necessary will permit the weakest desired signals to be covered by noise or by interference from strong adjacent-channel signals. If the bandwidth is too narrow, the quality or readability of the desired signal is reduced.

Because no single bandwidth can give optimum performance with all types of signals and under all conditions, the more complex receivers provide more than one. The Hammarlund SP-600 (a tube-type professional receiver) has six bandwidths, selected by a front-panel control. The popular Sony ICF-2010 has two. Some receivers provide variable bandwidth. Most AM radios manufactured for home entertainment have one fixed bandwidth designed to provide reasonable fidelity for music. This does not mean that these receivers are not suitable for DXing. The General Electric Superadio series, priced under \$100, has good audio quality and is a good receiver for DX. However, under difficult conditions the more complex (and expensive) communications receivers are more suitable.

**Dynamic Range.** This impressive-sounding term has come into common usage in recent years. It is the ratio between the weakest signal that can be satisfactorily received and the strongest signal that can be handled without producing noticeable distortion products in the audio output. It is usually expressed in db, with about 100 db being the top limit. Wide dynamic range is most important in receivers used in locations subject to strong local signals. It is well to remember that the benefits of wide dynamic range can be lost by using a preamplifier with mediocre dynamic range connected ahead of the receiver. Amplifiers such as those used with loop antennas should be selected with care and not used at all if not necessary. On the other hand, a loop antenna can compensate for lack of dynamic range in the receiver, by functioning as a preselector to reduce the level of unwanted strong signals before they reach the receiver.

**Repeatability.** This term was used more in the past than at present. As applied to medium wave receivers, it refers to the ability to be accurately tuned to a desired frequency. To illustrate, let's say that last night you were tuned to a weak station on 1260, but that a fade at the wrong time took away the station's identification. Can you again tune your receiver to that weak signal on 1260 with confidence that you are really on 1260?

Repeatability is vitally important in DXing. It is almost as important to a DX receiver as to a golf

swing! It is almost automatic in receivers with digital frequency readout. However there are many manually-tuned older receivers and low-cost modern models in which precise tuning is not automatic. Poor repeatability in a medium wave receiver can be the result of inadequate design, or by lack of maintenance, or both. The design factor has to do with bandspread and dial calibration. If the length of the dial is five inches, for example, then obviously with over 100 channels in the medium wave band, there can be an average of about 20 stations per inch of dial; not easy to select the correct one. That condition is usually avoided by increased effective dial length. A number of schemes were developed in the tube-type communications receivers in order to accomplish that. In most of the Hammarlund receivers, the medium wave band was simply divided into two bands and a precision tuning mechanism was built in.

If the tuning mechanism becomes worn, with resulting play or backlash, precise tuning becomes most difficult. When inspecting a manually-tuned receiver, watch carefully to make certain that when the tuning control is moved a small amount is either direction, the tuning indicator also moves.

## Some ideas concerning the purchase of a new or used receiver:

1. Buy the best that you can afford. You may not need all the features now, but conditions change, and interests change. Consider it a long-term investment.
2. Remember that the most sophisticated and complex receivers are designed to perform under difficult conditions. If your location is reasonably free of radio frequency noise and high-powered local transmitters, very satisfactory DXing can be done with a low-priced receiver.
3. Before buying a receiver which does not have digital frequency readout, check for tuning repeatability. If you buy an older communications receiver, select one which has the maintenance manual, or at least the alignment instructions and schematic diagram included in the sale.

73 Jack

## WSAI converting to all-sports format

By Greg Paeth  
Post staff reporter

Cincinnati is getting its first all-sports radio station — WSAI-AM.

WSAI general manager Jim Wood Tuesday confirmed the rock-oldest station's plans to make a dramatic format change.

"Basically, everything is in place to go to a sports-talk format for most of the day," He said the change could be made within two weeks.

Wood also said the station will carry Cincinnati Reds legend Pete Rose's daily syndicated sports call-in show from Tampa, Fla.

Wood declined to spell out the details of the daily schedule because not all the required contracts have been signed. He did say, however, that Donn Burrows, former WKRC-TV sports anchor, would host a daily show.

The once-dominant rock station will be modeling itself after New York's WFAN, which offers listeners nothing but sports and sports talk.

WFAN was the first all-sports station, in the Midwest, all-sports radio debuted about three months ago in Chicago, where callers can offer their suggestions about the Cubs, the White Sox, the Bulls, the Bears and the Blackhawks on WSCR-AM ("The Score").

The stations — prime examples of "niche programming" targeted to very specific audiences — have

proven successful in both cities, the country's largest and third-largest radio markets. Cincinnati is about the 30th-largest market.

The all-sports format dovetails well with WSAI's live sports broadcasts.

The station recently signed a three-year contract to carry University of Cincinnati football and basketball games, as well as a three-year agreement

with the Cincinnati Rockers, the arena football team that opens its season late this month at Riverfront Coliseum.

"With football, basketball and arena football, they'll have live sports on the air every month except April," Wood said.

One of the most popular radio shows in Cincinnati is WLW's "SportsTalk," hosted

by Cris Collinsworth and Andy Purman. The show runs weeknights from 6 to 9 but is frequently pre-empted during the baseball season by Reds broadcasts. Both WKRC-AM and WKYC-AM have tried unsuccessfully to compete with WLW in the past with their own sports call-in shows.

Recent ratings for WSAI have been miserable, although sister-station WNNK-FM has shown continued strength.

## Radio, TV Stations May Be Fined For Perpetuating On-Air Hoaxes

Associated Press

WASHINGTON — Radio and television stations that air hoaxes intended to alarm the public would face fines of up to \$25,000 under a proposal before the Federal Communications Commission.

The Washington Post said the monetary sanction was proposed because current punishments — lifting a station's license or sending it a letter of reprimand — were deemed either too severe or too light.

The FCC was expected to approve the sanction at a meeting today, the Post said.

The proposal was prompted in part by a January 1991 incident in which St. Louis station KSHE-FM interrupted its normal programming to broadcast a warning of a nuclear attack, accompanied by simulated warning tones of the Emergency Broadcast System.

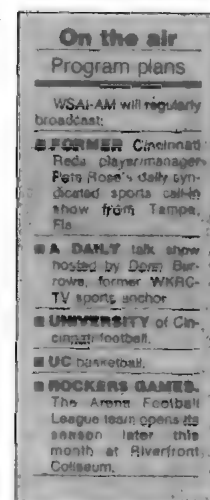
The 50-second hoax came in the midst of the Persian Gulf War and triggered a flood of telephone calls to the station and to authorities.

The FCC's complaints and investigations branch reported receiving nine radio and two television hoax complaints in the past three years.

For that reason, broadcasters including the CBS and NBC networks argued that the new rule was unnecessary and could impede creating programming. NBC also said Orson Welles' classic 1938 broadcast of "War of the Worlds," concerning a fictitious Martian landing, could be banned under the proposed new rules.

But the FCC staff said such hoaxes as reports of a station taken hostage in Phoenix; a volcano erupting in Avon, Conn.; and a murder confessed over the air in Los Angeles showed the need for the new sanctions.

"People take these things pretty literally when they hear them on the air," Kathleen Ham, an attorney in the FCC's policy and plans branch, told the Post. "Some are more obvious than others, but some can tie up emergency resources."



The Cincinnati Post  
-via Hugh Montgomery, Jr.

Watertown Daily Times, via Ken Chatterton



# Graveyard DX Totals

William Hale

15366 La Paz Avenue, #110  
Victorville, CA 92392

Total stations logged on graveyard frequencies

## TOTAL STATIONS HEARD ON EACH GY CHANNEL

Date of Last Update: Apr 30, 1992

DXer and Location(s)	1230	1240	1340	1400	1450	1490	Total
GENE ALLEN Vallejo, CA	76	98	116	117	130	102	639
STAN MORSS Boxford, MA	84	114	101	102	108	98	607
DON KASKEY Galva, IA	85	77	104	105	121	93	585
CHARLES REH Learnington, ON	63	77	88	67	78	83	454
BOB KNOX Newton, NJ	50	80	84	73	86	50	403
HANK HOLBROOK Chevy Chase, MD*	28/3	64/2	79/4	53/1	68/5	53/9	345/24
FRANK WHEELER Erie, PA	58	81	63	62	65	32	361
ROY MILLAR Bellevue, WA	66	57	57	49	57	41	327
STEVE FRANCIS Alcoa, TN	47	43	38	49	58	61	296
CARL DABELSTEIN Omaha, Lincoln, Overland Park, KS	45	51	54	50	55	31	286
DON LYNCH Various Locations, MA	50	44	45	33	42	44	258
ROBERT KRAMER Chicago, IL	32	19	50	54	61	29	243
ERNIE WESOLOWSKI Omaha, NE	40	48	44	45	51	15	243
RALPH SPERRY Fairfield, CT	29	46	44	21	37	39	216
RUSS EDMUNDS Various Locations, NJ	23	35	32	38	37	48	213
DON TRELFOORD Various Locations, ON	31	24	41	38	37	30	201
JEFF FALCONER Clinton, ON	28	35	24	37	37	27	196
ALAN IMPRESCIA New York, NY	29	30	27	32	28	34	180
ANDY RUGG Nuns' Island, PQ	30	29	32	23	25	34	173
DON VOORHIES Oswego, NY	31	19	28	28	25	38	167
DAN PHILLIPS Jacksonville, AL	25	19	37	25	24	36	168
JOHN KROMKA Montville, NJ	26	33	28	22	26	32	165
MIKE CSORBAY Canfield, ON	9	29	27	16	34	44	159
TIM KERFOOT Weston, CT	19	24	32	25	22	35	157
SHAWN AXELROD Winnipig, MB	28	10	27	31	25	35	156
RON MUSCO Hartford, CT	21	25	21	25	27	24	143
ROY MILLAR Marysville, WA	13	13	25	39	26	20	136
JOHN WILKINS West Des Moines, IA	23	25	26	22	16	21	133
RICH EDDIE St. Louis, MO	15	20	22	30	23	22	132
CHRIS LUCAS Various Locations	20	13	13	26	27	32	131
DAVE FOX Reading, PA	15	24	16	23	24	27	129
LAURIE BOYER Invercargill & Dunedin, NZ*	16/0	16/0	3/0	32/2	32/5	20/2	118/9
DON KASKEY Sacramento, CA	15	17	22	25	29	17	125
ESA HANNINEN Various Locations, Finland	13	18	20	23	16	35	125
GARY ATKINS Louisville, KY	21	8	29	21	18	26	123
FRANK MERRILL Various Locations	18	18	17	20	26	26	123
GEOFFREY PARRISH Memphis, TN	17	21	20	22	23	20	123
NEIL DICKERSON Sharptown, MD	21	19	32	16	19	15	122
DAVE SCHMIDT New Castle, DE	17	24	21	16	12	23	113
BILL HARDY Aberdeen, WA	18	22	17	18	18	18	111
RICK GARR Bloomington, IL & Austin, TX	12	18	24	16	20	19	109
MIKE HAWK Omaha, NE	24	14	14	16	29	11	108
SHARON SKOWERA Enfield, CT	12	19	25	21	15	15	107
TOM SUNDSTROM Willingboro, NJ	13	28	17	23	20	8	107
HARRY HAYES Goulsboro, PA	15	21	17	13	21	19	106
NIEL WOLFISH Toronto, ON	10	18	17	11	20	30	106
JOHN MALICKY Pittsburgh, PA	7	15	16	14	24	27	103
TIM HALL Chula Vista, CA	16	13	17	16	16	12	90
JOHN WILKINS Wheat Ridge, CO	12	12	13	22	14	16	89
NANCY HARDY Aberdeen, WA	18	20	13	11	13	14	87
RODNEY VALDRON Petit Rocher, NB	16	21	7	9	17	17	87
JIM HILLIKER Anaheim, CA	11	12	15	13	16	12	79
NIEL WOLFISH Winnipeg, MB	11	2	10	22	19	15	79
JOE KURETH Uniontown, MD	11	27	39	-	-	-	77
JIM RENFREW Rochester, NY	18	10	10	12	12	13	73
JEFF TYNNAN Parker, CO	11	11	6	14	16	10	68

STEVE GOZOVAT Binghamton, NY	14	14	7	11	14	9	61
WAYNE HEINEN Colorado Springs, CO	8	6	19	17	3	8	61
OLLE ALM Stockholm, Håmösand, Abisko, Karasundo & Göteborg, Sweden	5	7	5	19	12	13	61
JERRY ROBERTSON Croswell, MI	16	8	6	7	10	13	60
BRETT HANAVAN Chula Vista, CA	13	3	10	11	14	6	57
GREG CONIGLIO Clarence, NY	3	12	7	8	15	11	58
DAVE YOCIS Fairfield, CT & East Lansing, MI	11	9	9	12	4	9	54
BILL HALE WI, IL, ID, FL, NY, TX, CA	11	10	7	7	7	12	54
STEPHEN MCINTIRE Des Moines, IA	10	15	9	12	4	9	49
LES CARPENTER El Toro, CA	8	8	8	8	10	6	46
RUSS EDMUNDS Syracuse, NY	12	7	7	5	6	8	48
WAYNE HEINEN Orchard Park, NY	13	10	8	2	6	5	44
DEBRA HIDDEN Orlando, FL	6	9	7	6	5	11	44
PAUL MOUNT Teaneck, NY	5	8	8	8	8	5	42
KEN ONYSHUK Hazel Crest, IL	6	7	6	8	10	5	42
MIKE HARDESTER NAS Miramar, CA	6	6	3	7	11	5	38
STEPHEN PONDER Bossier City, LA	6	5	6	6	7	7	35
ERIC MCINTOSH Invercargill, NZ	0	3	1	15	7	7	33
GEORGE SANTULLI Cranford, MA	-	-	33	-	-	-	33
ERIC BUENEMAN Hazlewood, MO	8	7	4	5	3	4	31
BILL LACKEY Kingsville, TX	6	9	4	3	5	4	31
MORRIS SORENSEN Leaf Rapids & God's Narrows, MB	5	6	5	7	4	4	31
RICK DAU Oakland & Iowa City, IA	4	6	3	8	3	6	30
RICHARD E. WOOD Hilo, HI	5	5	8	4	4	2	28
JEFF KOSNETT Charleston, WV	5	3	6	3	4	3	26
WAYNE HEINEN Aurora, CO	4	6	0	5	6	4	25
GENE NIX Billings, MT	3	5	5	5	4	3	25
JEFF KOSNETT Chicago, IL	5	3	6	3	4	3	24
MIKE HAWK Evergreen, CO	5	4	1	6	3	5	24
CHRIS CUOMO Verona, PA	2	4	5	3	5	2	21
PAUL MOUNT Nelsonville, OH	4	4	2	3	3	5	21
DON DAVIS Warner Robins, GA	5	4	3	2	4	2	20
PAUL SWEARINGEN Moran, KS	5	3	2	2	2	5	19
RON RYCHALSKY Bridgeport, CT	3	2	4	3	2	3	17
LES CARPENTER Sandy, UT	2	1	0	2	5	5	15
SHARON WATERMAN Southwick, MA	-	-	-	-	5	8	13
RICHARD TURNER N. Yarmouth, MA	2	3	1	1	2	3	12
SHAWN AXELROD Orlando, FL	1	2	1	4	1	1	10
DOUG SMITH Madison, WI	2	1	3	2	2	0	10
SHAWN AXELROD Edmonton, AB	1	0	1	1	1	1	5
DALE PARK Irvine, CA	1	1	1	1	1	0	4
DALE PARK Various Locations, HI	0	1	0	1	1	0	3
SHAWN AXELROD Swan River, MB	0	2	0	0	0	0	2

\* Totals are for Before/After 1960

♦ All totals are for before 1940

- Unreported

## The Answer Man

Got a question about radio? Send it to NRC's Answer Man: Russ Edmunds - 753 Valley Rd. - Blue Bell, PA 19422-2052. No question is a dumb question, and Russ will answer all, from basic to highly technical. Watch for the answer in *DX News*!

## NRC AM RADIO LOGBOOK

1992<sup>3</sup> Edition  
September 5  
at Omaha

*The NRC AM Radio Logbook, 1992<sup>3</sup> Edition* contains verified heard station information in the U. S. and Canada. Only \$16.95; Canada \$17.95 to U. S./Canadian NRC Subscribers ONLY. \$19.95 to U. S., Non-NRC Subscriber; \$20.95 Canadian Non-NRC Subscriber. Others - please write.

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## Quantum Loop Test Evaluation and Improvements

Mark Connelly - WA1ION - 30 APR 1992

I recently purchased a Quantum Loop from its designer, Gerry Thomas. I ran it through a full gauntlet of tests (sensitivity, strong-signal handling, nulling ease, and sharpness of tuning). Receivers used included R-390A, Kenwood R-600, Realistic DX-440, and Sony ICF-2010. Oscilloscope testing was also performed.

The loop, as advertised, delivers a healthy signal level for the small ferrite head used. Q (selectivity, tuning sharpness) is excellent. To see how much sensitivity could be attributed directly to the loophead, the Quantum head and the Palomar MW head were compared by plugging each into my RTL-1 Remotely-Tuned Loop amplifier box assembly. Gerry's Quantum head, on average, delivered about 3 dB more signal than did the Palomar head. That's certainly not much in most listening situations, but it can make the difference on low-level signals (e.g. during the day) at electrically-quiet locations.

The amplifier in the Quantum Loop delivers substantial gain. Its gain is comparable to that of the updated RTL-1 loop using Dallas Lankford's balanced amplifier (BFE C of my designation) followed by the extra 20 dB kick of my BBA-C broadband amplifier. Such gain is indeed required with small ferrite loop heads. The Quantum and the RTL-1 both have much more gain than the Palomar and Radio West loops. The remotely-tuned RTL-1 needs +12 VDC at about 120 mA and a control box / control cable assembly. The Quantum, like most loops, is meant to be co-located with the receiver. Its simplicity, small size, and 9-volt battery operation makes it ideal for many travel applications (as long as a suitably low-noise, non-shielded operating environment is available). If you're thinking of getting a Palomar primarily for medium wave use, forget it. Get the Quantum instead.

Keeping amp. noise under control with such high gain is not a trivial matter. Both Gerry's Quantum amplifier and the BFE-C/BBA-C combination of RTL-1 achieve this task. The Space Magnet and the Palomar are inferior in this regard. Nulling with the Quantum Loop was about as good as nulling with the Palomar (and better than nulling with a Space Magnet or Radio West loop).

### A few "bugs" in the Quantum Loop

\*Just before sunset, a RTTY spur - obviously a shortwave mixing product - was noted around 1207 kHz. As Dallas Lankford and I have both noticed, mid- to late-afternoon, when MW is still essentially non-skip but lower SW band skip has built up to strong levels, is the worst time for such spurs.

The problem, as noted later in this article, was easily solved.

\*Harmonic distortion was obvious in the presence of WRKO-680 showing up on 1360 if the loop tuning wasn't precisely on 1360. Weak, remnant WRKO audio could be heard behind WLYN- 1360 even with the loop properly peaked. Surprisingly, reducing the loop's gain did not reduce the harmonic (WRKO) relative to the true 1360 signal (WLYN). The problem was largely mitigated by modifications to be described below. (WRKO runs 50 kW from a transmitter site approximately 3 miles / 5 km from my house.)

\*As Gerry has also noted, oscillation is possible if the loop is operated into a poorly-shielded (plastic-cased) receiver such as a Sony ICF-2010. Palliatives for this are to increase the distance between receiver and loop, re-orient the receiver and/or loophead, reduce the loop gain setting, and reduce the receiver's RF gain setting.

### "Spraying the bugs"

Scope tests showed that the gain pot implementation was flawed. Local WRKO-680 was peaked up and observed on the scope with a 50-ohm BNC terminator installed (to simulate a receiver). The waveform was severely distorted (clipped) at about 0.8 Vp-p. I presumed that the gain pot would remedy this and allow a lower level undistorted signal to be obtained. Wrong! Reducing the gain setting did, of course, reduce the signal level - but waveform distortion got worse! What I was observing on the oscilloscope in the time domain would equate to greater harmonic content (e.g. 1360, 2040) in the frequency domain.

The gain pot scheme was investigated further. As the lowest strong-signal distortion actually occurred at maximum gain (R7 set to zero ohms), I removed that pot and connected the end of R9 (that had gone to R7) directly to ground. Experimentation showed that a 5K audio-taper pot (to ground) connected through a 0.1 uF capacitor to the C4/R8 junction performed gain control that (a) provided gain control that did not increase distortion, and (b) provided a greater range of gain control than the previous scheme did.

I also wondered whether the output impedance of the loop amplifier gave a good match to a 50-ohm receiver input. I tried several "canned" Mini-Circuits RF transformers (2:1, 4:1, 9:1, 16:1, and 36:1) between the output of the Quantum Loop and the R-600's 50-ohm input. The 16:1 transformer (T16-6T) did the best job: signal transfer was at least 5 dB better than with a direct connection. Tests with the oscilloscope

(with 50-ohm terminator) showed the same improvement. Furthermore, harmonic distortion on "cruncher" locals like WRKO-680, WHDH-850, and WSSH-1510 was reduced: more output and less distortion with the 16:1 transformer in line.

These tests indicate that the output impedance of the Quantum Loop is in the 500 to 800 ohm range - hardly a good match to the vast majority of modern receivers which want to "see" 50 to 75 ohms. The addition of a T16-6T or T16-1 transformer at the loop's RF output should be considered mandatory for best performance. No doubt the 12:1 homebrew toroidal transformer described by Nick Hall-Patch's Beverage-matching article in *Proceedings* would also work well.

When I'm observing WRKO-680 on the oscilloscope, the Quantum Loop with T16-6T transformer delivers about 3.5 Vp-p (clipped) into the 50 ohm terminator and, if the loop is rotated a bit off the peak-strength position, 2 Vp-p of relatively undistorted sine wave can be obtained. Somewhat greater undistorted output levels can be attained if the DC input is changed from +9 VDC to +12 VDC. Studies of RF amplifiers here show that passing a single large-signal frequency with low distortion usually also means that multiple frequencies can be passed with less likelihood of mixing spurs (intermodulation distortion products). These concerns are of paramount importance to the urban DXer.

The RTTY spur was cured by the addition

of 47 uH inductors between VC1/L1/switched C1 and the R1/Q1 gate junction and between VC1/L1/C1 and the R2/Q2 gate junction. Some circuit board trace cuts were necessary. This modification was inspired by similar shortwave-spur fixes done by Dallas Lankford. Other minor modifications were performed. A phono jack (J5) was added near the existing J4 power input. I did this because I have several AC adapters fitted with phono plug outputs to interface to much of my homebrew gear. A 10 ohm resistor (R13) was added in series with the DC power input. This forms a low-pass filter with capacitors C7 & C10 to do a better job removing noise spikes, stray RF, and switching supply transients from the power buss.

### Conclusions

The Quantum Loop, with the modifications described above and in Figure 1, is the best small 9-volt-powerable medium wave loop I've ever used. It is perfect for travelling when used with a Sony ICF-2010, Realistic DX-440, or similar receiver.

### Phasing Applications

All that has to be done to make this loop phasing-compatible is to add a toggle switch in series with a 20K resistor. By switching in the resistor across the tuning capacitor, Q can be reduced to provide adequate null bandwidth for phasing applications. The gain pot can be used for level-equalization operations.

## REPLY TO MARK CONNELLY'S QUANTUM LOOP TEST EVALUATION AND IMPROVEMENTS

Gerry Thomas

First of all, I want to thank Mark for taking the time to thoroughly evaluate the Quantum Loop. I especially want to thank him for expending the time and energy to come up with the fixes he suggested.

Living in Pensacola, Florida has many advantages but among the disadvantages is a total lack of high-powered radio stations to test experimental antennas under adverse, high-signal level conditions. I had never noticed most of the problems Mark found in his urban location other than a signal clipping under high-level signal generator output levels. In routine DX use, these were not a problem at this location.

I, however, thoroughly welcome the opportunity to correct these shortcomings because I designed and built the Quantum Loop to be the best ferrite loop available. If you have already purchased a Quantum Loop, please return it to me (I'll reimburse your shipping costs (up to \$5.00)) so that I can incorporate Mark's improvements. If you are thinking of purchasing one of the remaining initial 20 loops, be advised that Mark's improvements will be incorporated at no cost.

Again, thanks Mark for making what I think is a good loop, better.

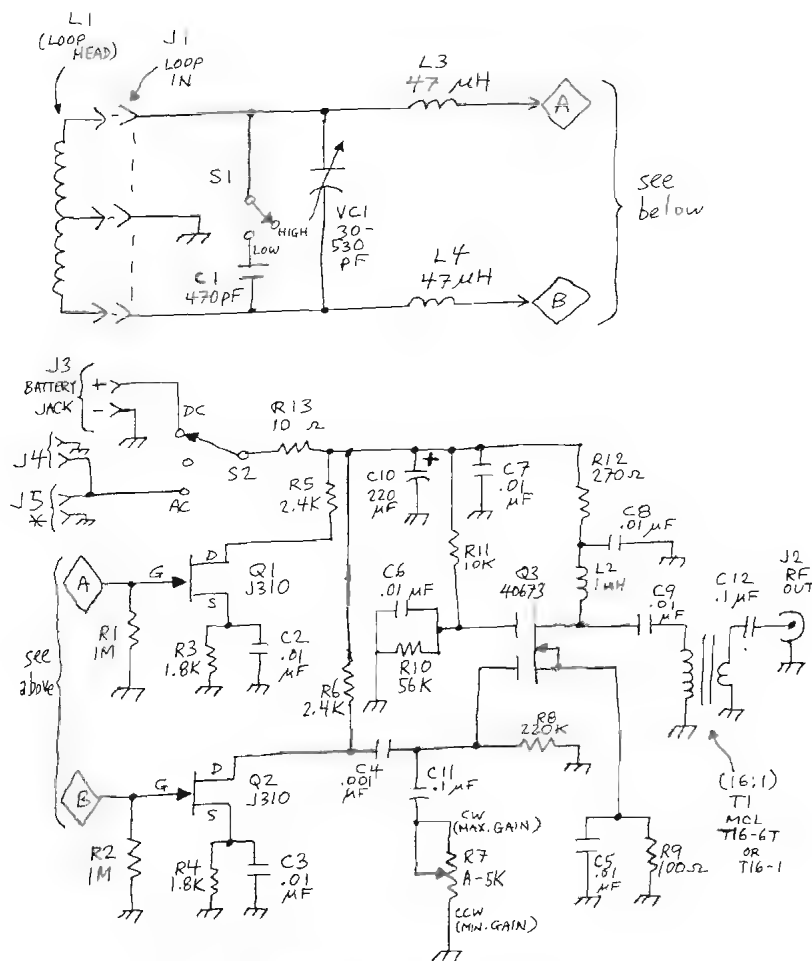


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FIGURE 1: IMPROVED QUANTUM LOOP



\* = ADDED PHONO JACK  
(SEE TEXT)

### QUANTUM LOOP UPDATE

Gerry Thomas

Since the publication of the original *Quantum Loop* article, several things have transpired including notification of errors in the article, suggested improvements in the circuit, availability of the *Quantum Loop*, and pricing.

### ERRATA

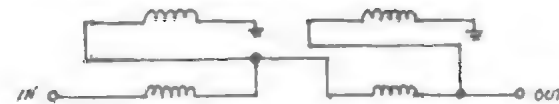
1. The stock number of VC1 from Mouser Electronics is 24TR218 (the number cited in the article was an old stock number).
2. R12 in the circuit diagram was unlabeled; it should be 270 Ohms.

### SUGGESTED IMPROVEMENTS

1. MOSFET 40673 is nearly impossible to find these days. I've switched to the 3N201 (or ECG 454/NTE454) and these direct substitutes work fine

2. The Mini-Circuits T16-1 or T16-6T work well as RF transformers to lower the output impedance of the loop (and thereby more closely match the standard 50 Ohm input impedance of most non-portable receivers). These run between \$4.45 and \$5.65 direct from Mini-Circuits (P.O. Box 166, Brooklyn, NY 11235).

If you don't want to purchase one of these commercial models, you can wind your own 16:1 unbalanced-to-unbalanced transformer. You'll need two FT50-43 ferrite toroids (Amidon Associates, 2216 East Gladwick St., Dominguez Hills, CA 90220) and four, nine-inch lengths of 28 gauge (about) wire. Create two bifilar windings (i.e., twist two wires together) and wind nine turns, evenly spaced, around one toroid and repeat the process for the second toroid. Connect the wires as described in the schematic below.



3. Mark's other suggested improvements also are effective and are incorporated in all future *Quantum Loops*.

### QUANTUM LOOP AVAILABILITY

By the time this update appears, all 20 of the initial run of *Quantum Loops* will be gone. I have ordered the necessary parts for more *Quantum Loops* but I don't expect to be ready to ship more until mid-July at the earliest.

### QUANTUM LOOP PRICING

As I was ordering parts for more loops, I was dismayed to discover that many of the components had increased significantly in price (e.g., cabinets-up \$5.00). Combined with the Mark Connelly improvements and the necessity to have new printed circuit boards made (with their accompanying set-up fees), I must raise the price of the *Quantum Loop* to \$135 (plus \$5.00 UPS). Fortunately, I've ordered enough parts so that this should remain the price for the foreseeable future (i.e., the next DX season).

Thanks for your understanding (and response to the *Quantum Loop*)...

Gerry Thomas, 3635 Chastain Way, Pensacola, FL 32504

## The little AM station that thinks it can

By Susan Bickelhaupt  
GLOBE STAFF

**Radio Tracks**

If you drove from Plymouth to Providence with the car radio on, you could hear a lot of stations — from Boston, from Providence, and several South Shore towns in between. Then, when you got to the halfway point in Middleborough, you might hear a very small, very young and very local station, WCEG at 1630 on the AM band.

The 2-month-old station only

broadcasts during the daytime, and has a signal of just 1,000-watts. But that's OK with Steve Callahan, owner, general manager, program director and maybe even the floor-sweeper at times.

But why start a little AM station now, when many big-city stations are struggling to pay their bills? Because, Callahan said, a totally local station just made sense. Middleborough might be small in population (about 17,000), but it's large in area (70 square miles).

"Middleborough is a unique area, and because of its geographic situation, has always been a town in it-

self," Callahan said. "The people look at Taunton and Plymouth and even Brockton as far-away cities."

Callahan, though, has no far-away or big-city pretense.

"That's the key to running a small station," he said. "Here, the people can't get a lot of local news by listening to Boston, Providence or other stations in between. We are their daily newspaper."

A staff of two handles the hourly news reports, which include two minutes of reports from the police log. The music is oldies from the '60s and '70s — Creedence Clearwater Revival, Doobie Brothers, Marvin Gaye — that comes from a satellite service. Much like a public-access station on cable TV, the station carries broadcasts of Little League games on Saturday afternoons and church services on Sunday mornings.

Advertising is doing well, too, said Callahan, since the local bank and the local horse farm might not be able to afford Boston rates, but will advertise on WCEG.

Callahan, originally from Scituate, worked at stations in Worcester and Providence until the late 1980s, when he built a station in the Tampa-St. Petersburg area of Florida. But he sold it by 1988, and has spent the past four years securing the license of WCEG. He had no studio and no tower — "just a file-drawer full of papers" — but kept pursuing the plan. Finally, after Callahan showed the FCC a stack of petitions and letters from townspeople requesting that a local station be allowed to go on the air, the FCC granted the license. WCEG signed on two months ago today.

The Boston Globe, via Mike Collins

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## RTL-1A: Improved Version of RTL-1 Remotely-Tuned Loop

Mark Connelly - WA1ION - 15 APR 1992

This article is an addendum to "The RTL-1 Remotely-Tuned Loop", an article I published in July of 1991. The original design has been upgraded to the RTL-1A model by the following modifications:

\* A switch (S4) has been added to enable or disable the output amplifier. In urban areas or with very sensitive receivers / large loop heads, use of too much gain can compromise dynamic range. (The output amplifier is still needed with smaller loopheads, less sensitive receivers, and rural locations.)

\* Another added switch (S5) now allows broadband, as well as tuned, operation in the active whip / wire mode. Broadband operation permits rapid bandscanning, shortwave parallel checking, etc. (at least in areas not congested with local stations that could give rise to spurious responses).

\* The BFE-C card (described in my recent article and updater) is used in place of the BFE-A. This balanced front-end, an adaptation of Dallas Lankford's design, has better noise and strong-signal handling characteristics than the BFE-A. See the BFE-C article and updater for full construction documentation (schematic, assembly, parts list).

\* An upgraded broadband amplifier card, BBA C1, is used in place of the BBA-C. Through laboratory tests with synthesizers and a spectrum analyzer at work after-hours, design optimizations have been made for improved IMD / spur performance in two-tone tests (1000, 1100 kHz). Calculated third-order intercept is in the +32 to +36 dBm range. Amplifier gain is about 23 dB. Complete BBA-C1 documentation is included in this article. This amplifier may be used in place of BBA-C in any of my other designs (e.g. MWDX 5).

\* Other minor component changes have been made as part of the RTL-1A upgrade.

### Documentation changes to figures and tables in the original RTL-1's article

RTL-1 Figure 1: replace with RTL-1A (this article) Figures 1A and 1B.

RTL-1 Table 1: Amend the hole list by adding: LEFT SIDE

Hole #	Comp. Desig.	Description	X	Y	D
4	S4	Tuned/Broadband switch-shaft	1.25	1.25	0.25
5	S4	Tuned/Broadband switch- tab	1.25	1.0	0.125

### RIGHT SIDE

Hole #	Comp. Desig.	Description	X	Y	D
4	S5	Amp. On / Off switch - shaft	1.125	1.25	0.25
5	S5	Amp. On / Off switch - tab	-1.125	1.5	0.125

RTL-1 Table 2: Amend the parts list as follows:

Item	Designator	Description/Value	Vendor	Vendor Stock #	QTY
(Items 1 through 8: no change)					
9	C2	capacitor, 47 pF	MOU	232-1000-047	1
(Items 10 through 32: no change)					
33	R8	resistor, 100K	RS	271-1347	1
34	R9	resistor, 330 ohm	RS	271-017	1
35	RFC1	inductor, 2.2 uH	MOU	43LR226	1
36	RFC2	inductor, 2200 uH	MOU	434-05-222J	1
37	S1	switch, DPDT, on-on	RS	275-614	1
38	S2	switch, 1pole/12pos. rotary	MOU	10WW112	1
39	S3, S4	switch, SPDT, on-on	RS	275-662	2
40	S5	switch, 3PDT, on-on	MOU	10TC280	1
41	-	screw, 4-40 X .25"	MOU	572-01880	14
42	-	split lockwasher, #4	MOU	572-00649	12
43	-	solder lug, #4	MOU	534-7311	2
44	-	hex nut, 4-40	MOU	572 00486	2

45	-	screw, 1/4-20X1.5"	TVH or Sears	2
46	-	split lockwasher, 1/4-20	TVH or Sears	2
47	-	flat washer, 1/4-20	TVH or Sears	2
48	-	hex nut, 1/4-20	TVH or Sears	4

RTL-1 Tables 4 & 5 and Figures 2 & 3 are changed to the equivalent documentation from the BFE-C article and updater.

RTL-1 Figure 8: replace with RTL-1A Figure 2. This is the schematic for the BBA-C1 Improved Broadband Amplifier that replaces the BBA-C.

RTL-1 Figure 9: replace with RTL-1A Figure 3. This is the BBA-C1 assembly drawing.

RTL-1 Table 8: replace with RTL-1A Table 1. This is the BBA-C1 parts list.

The following RTL 1 figures remain unchanged: 4, 5, 6, 7, 10, 11, 12.

The following RTL-1 tables remain unchanged: 3, 6, 7.

A note on varactor diodes: Besides the Motorola MVAM108 (available from Active Electronics, as stated in the RTL-1 article), several other devices can be used. Any of the other Motorola MVAM-prefix devices should work- some require different bias voltages. Allied Catalogue number 910, page 608 shows their stock number 586-0602 (Siemens part number BB112). Price was listed as \$ 0.60; it has now risen to \$ 0.75. Allied's address is 7410 Pebble Drive - Fort Worth, TX 76118; telephone is 1 800 433-5700. The BB112 seems fully compatible with the MVAM108. Also, per information from Dallas Lankford, the widely-available ECG618 and NTE618 devices can also be used.

Table 1: (A1) BBA-C1 Improved Broadband Amplifier card parts list  
[replaces Table 8 of RTL-1 article]

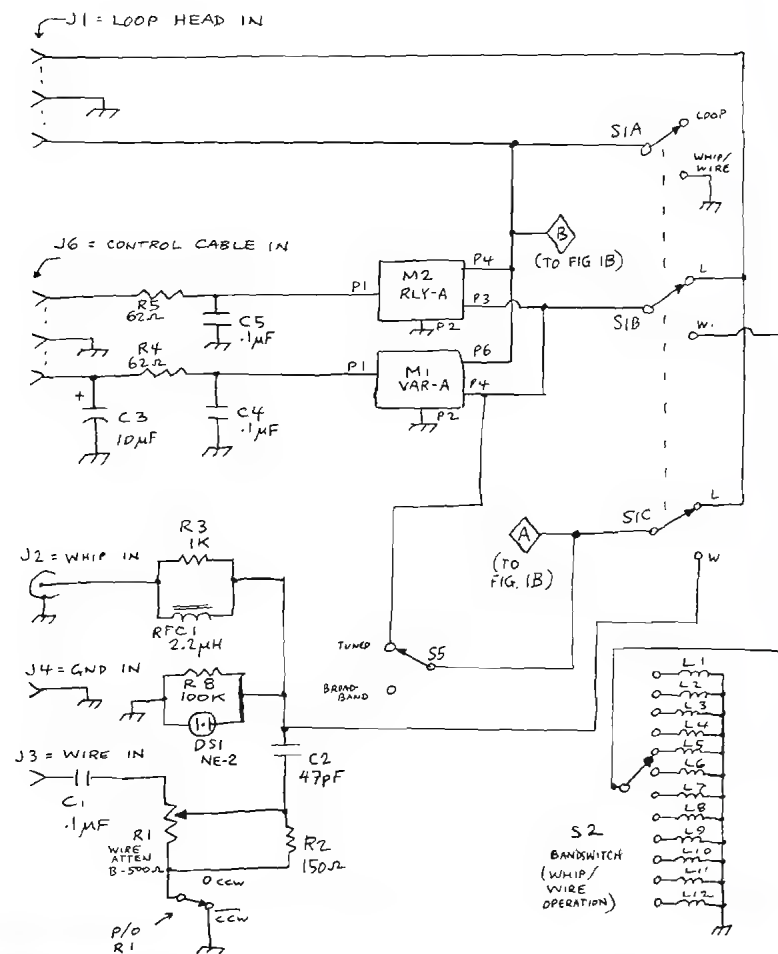
Item	Designator	Description/Value	Vendor	Vendor Stock #	QTY
1	BD	perfboard(1.4"X1.4")	RS	276-1396 (cut)	1
2	C1, C2, C5, C6	capacitor, 0.1 uF	RS	272-109	4
3	C3	capacitor, 10uF tant.	MOU	581-10M35	1
4	C4	capacitor, 0.001 uF	RS	272-126	1
5	H1, H2, H3, H4	screw, 4-40 X .25"	MOU	572-01880	4
6	H1, H2, H3, H4	spacer, 4-40 X .5"	MOU	534-1450C	4
7	H1, H2, H3	split lockwasher, #4	MOU	572-00649	3
8	H4	solder lug, #4	MOU	534-7311	1
9	P1-P8	flea-clip for .042 hole	MOU	574-T42-1/100	8
10	Q1	transistor, 2N3866	MOU	511-2N3866	1
11	R1, R5, R8	resistor, 4.7 ohm	MOU	29SJ500-4.7	3
12	R2	resistor, 33 ohm	RS	271-007	1
13	R3, R6	resistor, 680 ohm	MOU	29SJ250-680	2
14	R4	resistor, 2.7K	MOU	29SJ250-2.7K	1
15	R7	resistor, 1 ohm	MOU	29SJ500-1.0	1
16	RFC1	inductor, 2200 uH	MOU	434-05-222J	1
17	U1	voltage regulator, 7812	RS	276-1771	1
18	W	buss wire	RS	278-1341	approx. 1'

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FIGURE 1A: RTL-1A REMOTE LOOP  
MAIN SCHEMATIC (INPUT)



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by Bill Hale

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FIGURE 1B: RTL-1A REMOTE LOOP  
MAIN SCHEMATIC (OUTPUT)

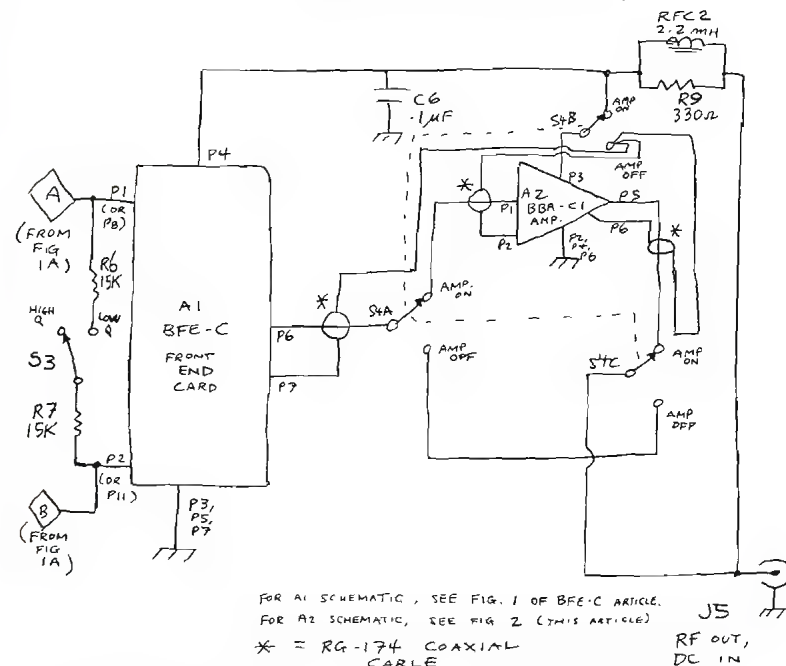
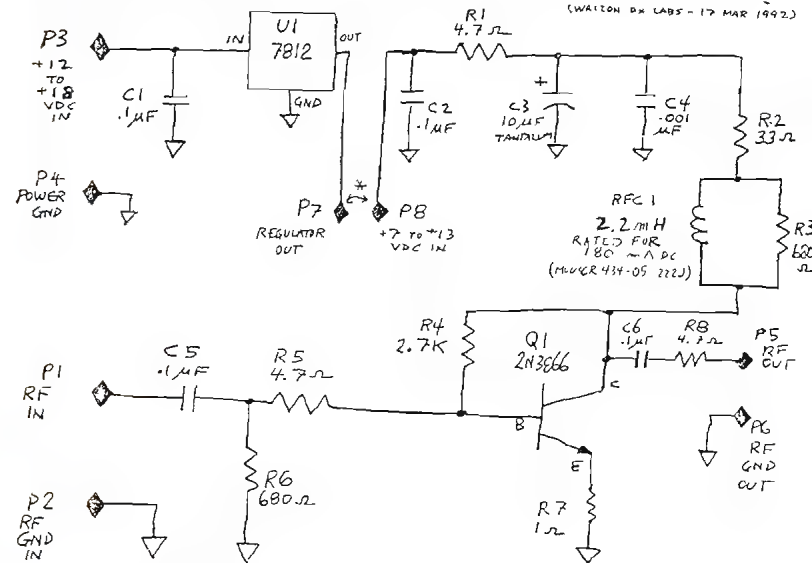


FIGURE 2: BBA-C1 IMPROVED BROADBAND AMPLIFIER CARD - SCHEMATIC  
(WATSON DX LABS - 17 MAR 1992)

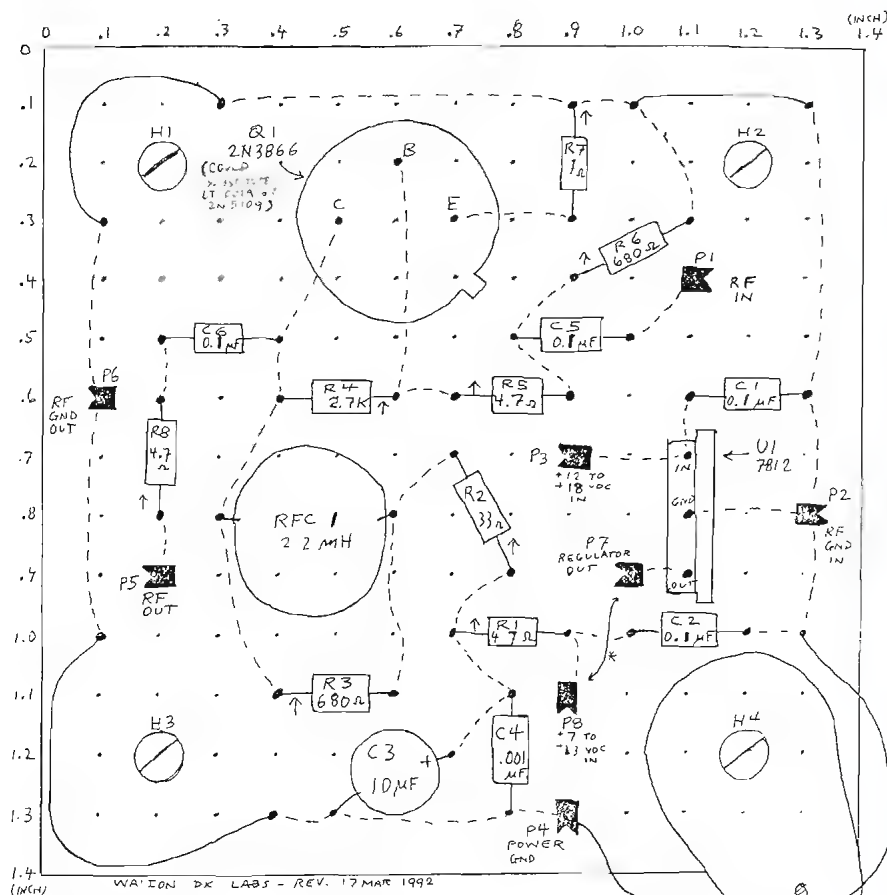


NOTES

↓ = CIRCUIT CARD GROUND

\* = JUMPER FOR REGULATED OPERATION  
FOR ASSEMBLY, SEE FIGURE 3  
FOR PARTS LIST, SEE TABLE 1

FIGURE 3: BBA-C1 IMPROVED BROADBAND AMPLIFIER CARD - ASSEMBLY



## NOTES

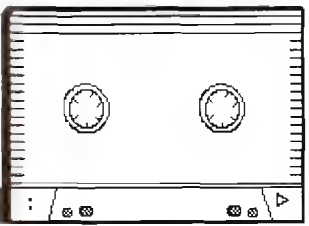
FOR SCHEMATIC, SEE FIGURE 2.  
 FOR PARTS LIST, SEE TABLE 1  
 ↑ = LONG LEAD SIDE OF VERTICALLY-MOUNTED COMPONENT.  
 — = BUSS WIRE ON COMPONENT SIDE OF BOARD  
 --- = BUSS WIRE ON SOLDER SIDE OF BOARD  
 ⚡ = "FLEA CLIP" TERMINAL PIN  
 ⚡ = OPEN SIDE  
 X = JUMPER INSTALLED FOR REGULATED OPERATION

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## Clear channels and AM classifications

by Michael Collins, 20 year NRC member and President of WSNG-610, Torrington CT  
 (typed by Mike Jeziorski)

Why is it that at night in Syracuse, just a relatively short distance from Albany, there is no trace of 50,000 watt WPTR on 1540, while KXEL Waterloo, Iowa dominates 1540 in Syracuse during hours of darkness?

Why is it WBZ-1030 Boston can be heard clearly at night in the Midwest while WRKO-680 and WHDH-850, also both 50,000-watters in Boston, cannot be heard in Connecticut or much beyond Route 128 toward the west?

All three are 50,000 watts and in Boston.

If the listener knew the classification of each of these stations, he or she would know why.

Eighty-eight radio stations in the United States, Canada, Mexico and the Bahamas are dominant "clear channel" stations.

This means that at night, their channels are

kept clear of interference, in the area where their signals are 0.5 millivolts in strength, 50% of the time during the hours of darkness. For a non-directional clear-channel station, that area usually encompasses a 750-mile radius around the station's city of license.

Until recently, the North American Radio Broadcasting Agreement (NARBA) designated the clear channel stations. That agreement has now been superseded by a new agreement, Rio 81, and a just-issued major FCC ruling on AM that, among other things, adds 10 new regional channels to the AM band, 1610 through 1700 kilohertz.

Under NARBA, dominant clear channel stations were designated as Class I-A and I-B. Here is a listing of the clear channel stations:

540	CBK (I-A), XEWA (I-A)	1010	CBR (I-A)
640	KFI (I-A), CBN (I-B)	1020	KDKA (I-A)
650	WSM (I-A)	1030	WBZ (I-A)
660	WFAN (I-A)	1040	WHO (I-A)
670	WMAQ (I-A)	1050	XEG (I-A)
680	KNBR (I-B)	1060	KYW (I-B), XEEP (I-B)
690	CBF (I-A), XETRA (I-B)	1070	CBA (I-B), KNX (I-B)
700	WLW (I-A)	1080	WTIC (I-B), KRLD (I-B)
710	WOR (I-B), KIRO (I-B)	1090	WBAL, KAAV, XEPRS (all I-B)
720	WGN (I-A)	1100	WWWE (I-A)
730	WEX (I-A)	1110	WBT (I-B), KFAB (I-B)
740	CBL (I-A)	1120	KMOX (I-A)
750	WSB (I-A)	1130	WNEW, KWKH, CKWX (all I-B)
760	WJR (I-A)	1140	WRVA (I-A), XEMR (I-B)
770	WABC (I-A)	1160	KSL (I-A)
780	WBBM (I-A)	1170	WWVA (I-B), KVOO (I-B)
800	XEROK (I-A)	1180	WHAM (I-A)
810	WGY (I-B), KGO (I-B)	1190	WOWO, KEX, XEWK (all I-B)
820	WBAP (I-A)	1200	WOAI (I-A)
830	WCCO (I-A)	1210	WOGL (I-A)
840	WHAS (I-A)	1220	XEB (I-A)
850	KOA (I-B), XETQ (I-B)	1500	WTOP (I-B), KSTP (I-B)
860	CJBC (I-A)	1510	WLAC (I-B), KGA (I-B)
870	WWL (I-A)	1520	WWKB (I-B), KOMA (I-B)
880	WCBS (I-A)	1530	WCKY (I-B), KFBK (I-B)
890	WLS (I-A)	1540	ZNS (I-A), KXEL (I-B)
900	XEW (I-A)	1550	CBE (I-B), XERUV (I-B)
940	CBM (I-B), XEQ (I-B)	1560	WQXR (I-B), KNZR (I-B)
990	CBW (I-A)	1570	XERF (I-A)
1000	WLUP, KOMO, XEOY (all I-B)	1580	CBJ (I-A)

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With the new Rio Treaty and with the new FCC rules on AM contained in a ruling issued in October 1991, all the Class I-A and Class I-B stations are now designated Class A. This is how the clears are also designated under Rio 81.

At one time, the Class I-A's were the only nighttime station on their channel in Canada/U.S./Mexico/the Bahamas, and from the 1930s through the 1970s the FCC debated whether to allow them to increase to 750,000 watts.

Stations still under consideration for 750,000 watts at the end, in the 1970s, included KFI, WSM, WNBC (now WFAN), WLW, WSB, WJR, WBAP, WCCO, WHAS, WWL, WHO, KSL, and WOAI. WGN also vigorously sought 750,000 watts.

Indeed, WLW did operate with 500,000 watts from 1934 through 1939, when it was owned by Powell Crosley, but the Cincinnati station was required to reduce to 50,000 watts by an act of Congress in 1939, restricting all U.S. stations to 50,000 watts maximum on the AM band.

Though the old NARBA treaty allowed Class I-A's to operate with no restriction on power, only Mexico allowed its I-A's to operate with powers above 50,000 watts. Like the U.S., Canada's maximum limit was set at 50,000, and ZNS in Nassau, the Bahamas never increased above 20,000 watts.

In Mexico, XEX-730 was permitted 500,000 watts.

XEW-900 and XERF-1570 were permitted 250,000 watts.

XEWA-540, XEROK-800, and XEG-1050 were permitted 150,000 watts.

XEB-1220 was permitted 100,000 watts.

In the U.S., the FCC finally rejected the plan for superpower clear channel AMs, and the channels were then broken down, with fulltime lower-class stations allowed beyond the dominant Class I-A stations' protected 0.5 mv 50% skywave contour, usually a radius of 750 miles.

Indeed, many of the clears were far from the totally clear channels they had been, when NARBA took effect in March 1941.

For example, under special agreements, Canada used the Mexican clears, and Mexico in turn used the Canadian clears, for regional stations, some as high in power as 50,000 watts. Examples included XEDM-1580 Hermosillo, Mexico on Canada's 1580; CKLW, CJAD and CHRC on Mexico's 800 clear channel; and CKLM-1570 Montreal on Mexico's 1570.

Many stations, frequently a half dozen or more, were assigned on the other countries' frequencies.

The U.S. obtained special exceptions for

Mexican and Canadian clears. Some examples included WHN-1050 New York City, 50,000 watts fulltime on Mexico's 1050 and WGAR-1220 Cleveland, 50,000 watts fulltime on Mexico's 1220.

On Canadian clears, examples of U.S. fulltimers allowed included WDAK-540 Columbus GA and KNOE 540 Monroe LA on Canada's 540; WAPE-690 Jacksonville, WTIX-690 New Orleans, and KGGF Coffeyville KS also on Canada's 690; KCBS-740 San Francisco, KRMG-740 Tulsa, and KTRH-740 Houston, all on Canada's 740; WIBG-990 Philadelphia and WNOX-990 Knoxville TN, both on Canada's 990; WINS-1010 New York City and KLRA 1010 Little Rock AR, both on Canada's 1010; and KDAY 1580 Santa Monica and WSRF-1580 Fort Lauderdale FL, both on Canada's 1580, as well as WCLS-1580 Columbus GA.

Canada used its own clears for regional stations, CBEF-540 Windsor ON on CBK's 540; CBU-690 Vancouver on CBF's 690; CBX-740 Edmonton, Alberta on CBL's 740; CBH-860 Halifax NS on CBJC's 860; and CFRB-1010 on CBR's 1010, are some examples.

Despite these major exceptions, the I-A clear channels remained relatively clear through the 1950s, 1960s and 1970s.

When it was finally decided there would be no superpower AM, the 1980s saw the once unpopulated I-A clears fill up with new fulltime stations. Suddenly WLW-700 and WOAI-1200, for example, long the sole occupants of their channels, had plenty of company.

700 had fulltime stations in Soledad CA and Silt CO. 1200 had 15 fulltime stations in the U.S., and more in Canada.

All of the I-A clears were broken down similarly.

Canadian and Mexican fulltime stations moved onto U.S. clears.

The province of Alberta had major regional 50,000 watt fulltimers on the 3 New York City network clear channels of 660, 770 and 880.

The dozens of U.S. daytime-only stations on each of the Canadian and Mexican clear channels began operating at night with low power, some as low as 10 watts or even less. These stations were designated Class II-S.

This wrecked reception of the big Mexican border stations in wide areas of the U.S. At this time, only XETRA-690 Tijuana has English, operating as an all-sports station. XEPRS-1090 Tijuana, XEROK-800 Juarez, XERF-1570 Ciudad Acuna, and XEG-1050 Monterey, all of which programmed in English to American audiences at night, for decades, are now Spanish, serving Mexican audiences.

When the dust had cleared, the I-A's were

still clear for about a 750 mile radius around their cities of license in their home countries, and that was it.

They were now really no different than the Class I-B clears, except that they were non-directional for the most part, while most of the I-B's were and are directional.

Class I-B clear channel stations were 50,000 watt stations that shared a channel, usually one in the east and one in the west. They usually would protect each other, using directional antennas at night, but all other stations on their frequencies protected the I-B stations' 0.5 mv 50% nighttime skywave areas.

Looking at the list provided at the start of the article, one sees many I-B clears that fit into this pattern: WOR and KIRO on 710, CBA and KNX on 1070, WTIC and KRLD on 1080, and WQXR and KNZR on 1560.

In some cases one sees 3 I-B's, all protecting each other at night, with directional antennas. WLUP Chicago, KOMO Seattle and XEOY Mexico City on 1000 is one example. Other examples are WBAL Baltimore, KAAY Little Rock and XEPRS Tijuana, all on 1090, and WOWO Fort Wayne IN, KEX Portland, Oregon and XEWK Guadalajara, Mexico all on 1190.

There are a few I-B's on I-A clears, far from the I-A, and protecting it if necessary. Examples include CBN Saint Johns, Newfoundland on KFI's 640; XETRA Tijuana on CBF's 690; and KXEL Waterloo IA on ZNS's 1540.

With the dominant I-B's far apart, and with most having directional antennas to protect each other, dead spots between them over large areas were often created, and this in turn allowed fulltime regional type stations to be shoe-horned in on these channels.

For example, on 710, fulltime stations were allotted in Los Angeles, Denver, Kansas City, Superior WI, Shreveport LA, and Miami FL. All had to erect highly directional antennas to fully protect the nighttime skywave areas of WOR and KIRO on 710.

All of the non-dominant stations operating on the clear channels were designated Class II. All of the stations on 710 other than WOR and KIRO were designated Class II. Class II's included CKLW on 800 in Windsor ON, WHN-1050, WGAR-1220, WPTR-1540, XEDM-1580, and so on.

Class II stations operated with a maximum of 50,000 watts and a minimum of 250 watts.

With all of the changes wrought by Rio 81 and by the new FCC rules, there really is no difference between I-A and I-B clears, and they are all classified as Class A.

Under the old NARBA, 41 channels were designated as regional channels. They remain

regional channels. They are 550, 560, 570, 580, 590, 600, 610, 620, 630, 790, 910, 920, 930, 950, 960, 970, 980, 1150, 1250, 1260, 1270, 1280, 1290, 1300, 1310, 1320, 1330, 1350, 1360, 1370, 1380, 1390, 1410, 1420, 1430, 1440, 1460, 1470, 1480, 1590 and 1600.

Stations on them operated with a maximum of 5,000 watts and a minimum of 500 watts. The fulltime stations were designated Class III-A and Class III-B. They operate with directional antenna, in most cases, to protect each other. (At night, when skywave reception exists, there is often a high level of interference on all of these channels.)

While most operate with directional antennas at night, there are a few exceptions: WQAM-560 Miami FL, KMJ-580 Fresno CA, KAAQ-590 Spokane WA, KFRC-610 San Francisco, WDAF-610 Kansas City, KVOR-1330 Colorado Springs, and WKAT-1360 Miami FL are some that operate with non directional antennas at night.

At night, when skywave reception exists, there is often a high level of interference on each of these 41 channels, unless the listener is close to one of the stations, and within its groundwave interference-free coverage area.

Class A clear channel stations are protected to their 0.1 millivolt contours groundwave, and their 0.5 mv 50% nighttime skywave area. Class A's are the only stations with protected skywave areas.

The regional fulltime Class III stations are all now designated Class B stations, and are protected to their 0.5 mv groundwave day, and 2 millivolt groundwave nighttime contour.

In reality, some stations receive strong interference, and must be much stronger than 2 mv to be considered interference-free and listenable at night, under FCC standards. (An AM signal must be 20 times stronger than another signal on the same channel, to be listenable and free of interference, compared to a ratio of only 2 times to one on FM.)

WBEN Buffalo was the occupant of 930 for years when, in the 1940s, WPAT Paterson NJ, a daytimer, went fulltime on 930. As a result, WBEN's signal at night is not nulled toward the NYC/Paterson area, and is loud most nights. WPAT must be 26 millivolts to overcome WBEN and be considered listenable. This extremely strong signal area would extend only several miles from the transmitter, at best.

(Of course, there is nothing that can be done about skywave interference on AM. All AM stations' signals are reflected back to the earth at night, with the ionosphere acting as a giant mirror of radio signals, and this is why many stations have highly directional radio broadcasting arrays, with multiple towers, to



decrease the unwanted skywave signal in the directions of other stations, and decrease the destructive interference they cause. One station in the Toronto area has 13 towers to deflect its signal in various directions.)

In its new rules released in October 1991, the FCC has also designated all fulltime Class II stations as Class B stations.

Thus, all fulltime Class II and fulltime Class III stations are now Class B.

Class B stations may operate with 50,000 watts maximum, or as little as 250 watts.

This means that the hundreds of fulltime regional stations on the 41 regional channels are now eligible to operate with 50,000 watts, 10 times the former maximum limit of 5,000 watts, or as little as 250 watts, versus the former 500 watt minimum allowable.

Class II stations always could operate with 250 watts up to 50,000 watts. Most operated with either relatively high or low power day and night. A few, however, operated with very high power day and lower power at night. WCAW-680 Charleston WV operates with 50,000 day and 250 watts at night. WSJC-810 Magee MS operates with 50,000 watts day and 500 at night; WCPC-940 Houston MS operates with 50,000 day and 250 watts at night.

While the regional stations may now, at least on paper, be eligible for 50,000 watts, in the real world, very few if any regional stations in the heavily populated northeast will be able to increase to 50,000 or even 10,000 watts.

This is because, in the same October 1991 order the FCC stiffened rules of allowable overlap for AM stations 1 channel and 2 channels apart, to decrease interference.

Until now, the 0.5 mv groundwave area of 2 regional stations 1 channel apart could "kiss" or touch each other, but not overlap. Now, under the new rules, stations 1 channel apart may be only 0.5 mv and 0.25 mv in strength, instead of 0.5 mv and 0.5 mv.

Also, for stations 2 channels apart, the 5 mv contours of the two stations cannot overlap, for example, on 600 and 620. Previously, for stations 2 channels apart, the standard was a prohibition of overlap of the 2 mv and 25 mv contours.

For stations 3 channels apart, the standard has been and remains, no overlap of the two stations' 25 mv contours.

AM stations may operate 4 channels apart in the same area, with no restriction, the way it's always been.

In more sparsely populated regions of the country, it may be possible for some regional stations to increase above 5,000 watts, to as much as 50,000 watts, where there are no stations on the same channel, or 1 or 2 channels away, to be concerned about.

Under NARBA, six channels were reserved for local class stations, which have been known as Class IV stations. This continues. These local class stations mostly operate with 1,000 watts day and night, non-directional, and do not protect each other at night. In the day they are protected to the 0.5 mv day and must protect other co-channel and adjacent channel stations to their 0.5 mv contours.

The Class IV stations are now reclassified Class C stations under the new rules.

The Class C local stations operate on 1230, 1240, 1340, 1400, 1450, and 1490.

At night, they receive no protection from other co-channel stations, and must be up to 19 mv and even 20 mv to overcome the noise and interference.

The Class IV stations in Alaska, Hawaii, Puerto Rico and the Virgin Islands on these 6 channels have been designated as Class B, and thus may operate with as much as 50,000 watts.

Finally, the FCC has designated as Class D all the daytime only and former daytime-only stations that began operating in the 1980s with less than 250 watts on Mexican and Canadian clears, and also on all the 41 regional channels.

Because of the skywave characteristic of all AM signals, hundreds of stations on clear and regional channels have had to go off the air during hours of darkness.

In the 1980s, part of the Ronald Reagan deregulation was to allow many of the stations on U.S. regional and on Canadian and Mexican clear channels to stay on the air at night with flea power.

In many cases the powers are so low and levels of interference from full-power stations on the same channel so high, that these stations do not effectively cover portions of their own cities of license.

WMIM-1590 Mount Carmel PA operates with 1,000 watts day, and 17 watts at night.

WCAZ-990 Carthage IL operates with 1,000 watts day and 9 watts at night.

These stations receive no protection from interference.

Daytimers within the skywave nighttime area of a Class A (formerly Class I-A or I-B) clear channel station, may not be on at all during hours of darkness.

For example, WKZE-1020 Sharon CT, with 2,500 watts, cannot come on until local sunrise, which is 7:15 a.m. in the dead of winter, and must go off as early as 4:30 p.m. In addition, during so-called "critical hours", WKZE must reduce power to 1,800 watts. All this is because WKZE is within 750 miles, within the nighttime skywave protected area of KDKA Pittsburgh on 1020, which has total priority on the channel.

WTHE-1520 Mineola NY, 1,000 watts,

cannot be on during hours of darkness, and can operate with only 250 watts 2 hours after sunrise and 2 hours before sunset. This is because WWKB Buffalo, a Class A clear channel station, has total priority on 1520 in the northeast.

All daytimers and former daytimers operating with flea power (under 250 watts) at night are protected to the 0.5 mv contour day with the 0.5 mv not to be overlapped by the 0.25 mv contour of an adjacent channel station. The night signal of these Class D stations receive no protection whatsoever from the interference.

Class D stations operate with day powers of 250 watts to 50,000 watts, and under 250 watts at night.

Also included as Class D stations are the very few remaining "limited time" stations, which operate on clear channels, and which may operate during daytime hours, and additional hours up to sunset at the city of license of the dominant Class A clear channel station.

Also they may operate whenever the dominant Class A is off the air.

One example of a "limited time" station is WLIB-1190 NYC, which operates all daytime hours, plus evening hours up to sunset at Fort Wayne IN where the dominant Class A station on 1190, WOWO, is located.

Thus, while other daytimers in the New York metro area must go off as early as 4:30 or 4:45 p.m. in December and January, WLIB may remain on until 5:45 p.m., an important additional hour.

Another limited time station was now-dark WHEB-750 Portsmouth NH, which could remain on until sunset at Atlanta, where the dominant Class A on 750, WSB, is located.

Other stations that were limited time as recently as the 1970s have obtained fulltime licenses on their old channel, and stay on at night. Examples of former limited time stations that are now fulltime include KGBS-1020 Los Angeles, KFAX-1100 San Francisco, WOSU-820 Columbus OH, WJJD-1160 Chicago, and KXA-770 Seattle WA.

In the 1950s, when WTAM-1100 Cleveland (now WWWE) would go off at 1 a.m. Cleveland time, KFAX San Francisco, which had gone off at sundown, would sign back on at 10 p.m. San Francisco time, with ethnic programming.

The FCC and Canadian Radio Television Commission no longer grant new daytimers, so there will be no new daytimers in the U.S. or Canada.

Another disappearing phenomenon is share-time stations. In the 1930s, in the New York City area, many channels were shared by up to 4 stations, which made for some crazy-

quilt schedules for the stations involved.

At night in the 1930s some stations shared nighttime clears. For example, starting in 1931, WTIC and WBAL shared 1060. On Hartford nights, WBAL, an NBC Blue affiliate, would go off on 1060, and synchronize with WJZ, the NBC Blue station in New York, on 760. On Baltimore nights, WTIC, an NBC Red affiliate, would go off and synchronize with WEA-660 New York City, an NBC Red station.

As recently as the 1960s and 1970s, in the New York City area, 1280, 1330, and 1380 were all shared by at least 2 stations. They were all merged and today each has only 1 station.

In Chicago, however, on 1240, a 3-way sharetime arrangement survives, with WCRW, WEDC and WSBC sharing hours.

Synchronized stations have also disappeared, with a few exceptions. WLLH-1400 still operates synchronized transmitters in both Lawrence and Lowell MA. KKO-770 Albuquerque a few years ago opened a synchronized station on 770 in Santa Fe, New Mexico.

In the 1960s WBZ-1030 Boston closed its synchronized 1,000 watt station WBZA on 1030 in Springfield MA. WBT-1110 closed its synchronized station on 1110 in Shelby NC.

In its October 1991 ruling, the FCC also said it will not grant split channel stations, to allow stations to operate day and night on different channels. One it did allow, in 1989, was WNZK-690 Westland, Michigan, to operate on 680 at night.

In Canada, one that's operated for years, since 1968, is CHYR Leamington ON. It operates on 710 days and 730 nights.

In the 1960s in Toronto, CHFI operated on 1540 day and 680 night. At sunset, listeners on 1540 were advised to tune down to 680. Now there are fulltime 24 hour stations in Toronto on both 680 and 1540.

The FCC said it will entertain waiver requests to allow split channel operations, if there is a compelling need.

One "limited time" concept which has survived to this day allows 3 major clear channel Class A stations, WTIC, WCKY and WQXR, to operate with their daytime patterns until sunset at the western Class A station. WTIC may operate non-directional until sunset at Dallas, WCKY may operate non-directionally until sunset at Sacramento, and WQXR operates with its day pattern until sunset at Bakersfield CA. That gives these stations important afternoon and evening hours on their day patterns. In the case of WQXR, WQXR has 3 extra hours on its day pattern, until 11:30 p.m. in the summer.

In its October 1991 ruling the FCC declined to require commonly-owned AM-FM stations



in the same market to provide separate programming. In 1966, the FCC imposed a requirement that stations in cities over 100,000 population provide separate programming on their AM and FM channels 50% of the time. This move was widely hailed as the boon to FM that allowed it to get on its feet and ultimately become dominant. The separate programming gave listeners a reason to listen to FM. Stereo was limited to FM exclusively in the 1960s as well, another boon that helped FM. (Indeed, in the 1950s, the FCC said it feared for a time that FM would collapse completely as a service. All 7 FMs in Saint Louis went off the air in the early 1950s. All 3 FMs in Milwaukee went off. All 7 in Kansas went off. Ten of 12 in Oklahoma and 10 of 14 in Maryland went off.)

In 1986, the FCC ended its separate programming rule for AM-FM combinations, since FM had survived and become very strong, the FCC said.

Now some want the non-simulcast rule back as a way to bolster AM.

In its October 1991 ruling the FCC said it will revisit this question within 3 years.

The FCC declined to require all AM stations to stereocast, but will use stereo as a criterion for selecting which stations get to migrate to the 10 new AM channels in the expanded band: 1610, 1620, 1630, 1640, 1650, 1660, 1670, 1680, 1690, and 1700 kHz.

Those promising stereo get a plus.

Since a major goal of the FCC is to decrease interference, the new channels will all go to existing stations, and no new ones.

All 10 channels will be for fulltime regional stations, Class B stations, with a maximum power of 10,000 watts (as opposed to the 50,000 watt maximum on the old 540-1600 band). The minimum is 250 watts.

The highest priority to allow existing stations to migrate will be for stations causing the greatest amount of destructive interference to other stations, especially during nighttime hours.

The second highest priority will go to daytime stations on clear channels with no other fulltime stations in cities of over 100,000. WJDM-1530 Elizabeth NJ is one station hoping to move to 1650, since it fits this criterion. WJDM must be daytime only on 1530 because of Class A WCKY Cincinnati on 1530.

The third highest priority will go to other daytime-only stations, though this priority is considerably below the first two, since the FCC is mainly interested in reducing interference, in deciding which stations may migrate.

Class C local stations on 1230, 1240, 1340, 1400, 1450 and 1490 will not be allowed to migrate to 1610-1700. The FCC notes 54 Class

C stations expressed interest in moving, but none will be allowed.

The FCC will allow the migrating stations to simulcast on their old frequencies for 5 years, after the new high frequency channel transmitter signs on. Some wanted a ten year simulcast period, but it was noted that the goal is to reduce interference, and get interfering signals off the air wherever possible.

The FCC hopes many of the new-band stations will be non-directional, but it will allow some non-complex directional arrays with 2 towers and without sharp nulls. It does not want extremely complex arrays with multiple towers and deep nulls. Along coastal areas, however, the FCC noted, the signals could be strengthened over urban centers, and go harmlessly out to sea, without creating destructive interference to co-channel stations.

In a sample allotment study, the FCC notes that WERA-1590 Plainfield NJ might be able to move to 1650 (provided WJDM doesn't). These other migrations were envisioned as possibilities, in this study: WNDB-1150 Daytona Beach FL to 1640; WCBG-1590 Chambersburg PA to 1640; KRIZ-1420 Reston VA to 1680; WPTX-920 Lexington Park MD to 1630; KDIF-1440 Riverside CA to 1680; KOGO-1590 Ventura CA to 1630; and KBOR-1600 Brownsville TX to 1640.

Daytimers listed as possible in this computer study included: WVOG-600 New Orleans LA to 1640; WRUM-790 Rumford ME to 1620; WYBG-1050 Massena NY to 1610; KOSZ-1570 Vermillion SD to 1700; and KUDY-1280 Spokane WA to 1610.

These are just examples of possible migrations, in a study conducted by an FCC computer.

Lengthy hearings will decide which stations actually do move, and to which channels.

It is envisioned that each channel will accommodate no more than 25 to 30 stations, maybe fewer.

One issue the FCC did not address is the use of 530, which apparently will not be assigned in the U.S. for broadcast use now.

540, in use in Canada by the early 1930s (an early 1930s occupant for a time was Windsor's CKLW) was not assigned for use in the U.S. until 1952.

In Canada, 530 is now being used for broadcast. CIAO Brampton ON has moved from 790 to 530 and is widely audible over the northeastern U.S. during hours of darkness.

In addition, because of the sparse and widely scattered population of Alaska, stations on more than 15 channels have been classified as Class A, mainly to protect them

from destructive co-channel interference. The Alaskan stations are protected to an even more stringent degree than regular clear channel stations in the lower 48 states. The Alaskan Class A's are protected to the 0.1 mv 50% skywave contour area. They operate on U.S. clear channels. Power is 10,000 watts minimum and 50,000 watts maximum. Clear channels now being used in Alaska include 640, 650, 660, 670, 700, 720, 750, 770, 780, 820, 830, 840, 850, 870, 890, 1020, 1080, 1140, and 1170.

The original NARBA, which took effect in March 1941, was drawn up in Havana, Cuba.

Cuba, being close geographically to the U.S., Canada, Mexico and the Bahamas, was a signatory and participant.

Special Class I-C and Class I-D stations were created to allow Cuban stations to operate as clear channels covering the large island of Cuba (Cuba is 400 miles long).

Both clear and regional channels were used as clears for Cuba.

Stations in the other countries nulled their signals toward Cuba to protect the Cuban clears over the large Cuban island. The Cuban clears, in turn, used directional antennas to protect the Canadian, U.S. and Mexican stations on the channels.

The list of Cuban clears was as follows (13 in all):

550 watts	(Class I-C) Havana	CMW	10,000
570 watts	(Class I-D) Santa Clara	CMHI	10,000
590 watts	(Class I-D) Havana	CMCY	25,000
630 watts	(Class I-D) Havana	CMQ	25,000
640 watts	(Class I-C) Santa Clara	CMHQ	15,000
690 watts	(Class I-C) Havana	CMBC	50,000
740 watts	(Class I-D) Holguín	CMKJ	10,000
860 watts	(Class I-C) Havana	CMBL	25,000
920 watts	(Class I-D) Camaguey	CMJL	10,000
950 watts	(Class I-D) Havana	CMBF	10,000
980 watts	(Class I-D) Havana	CMCK	10,000
1010 watts	(Class I-B) Havana	CMZ	25,000
1560 watts	(Class I-B) Las Villas	CMIR	10,000

All 13 of these Cuban clear channels operated with directional antennas. U.S. stations on the channels reciprocated, as stated. On 630, for example, WSAV Savannah

GA, WMAL Washington DC and WPRO Providence all had sharp nulls to Havana to protect CMQ.

On January 1, 1959, Fidel Castro seized power from Fulgenio Batista. By the early 1960s Cuba was no longer observing the treaty.

All of Cuba's stations, which had been privately owned, were confiscated by the government.

They stopped using their directional antennas, and in some cases greatly increased power. The station on 590 increased to 150,000 watts. A regional station on 600 increased to 150,000 watts. A station on 670 increased to 150,000 watts. The 630, 640 and 690 stations went non-directional.

All of these, and others as well, caused severe interference to the co-channel U.S. stations which were reeling from the interference, because of their lower class and power.

Regional stations on 600 with 5,000 watts or 500 watts at night could not effectively blot out a skywave signal from Cuba with 150,000 watts. WICC Bridgeport and WCAO Baltimore suffered severe interference in their immediate areas, though both normally had very good nighttime signals over their market areas because of the low dial positions. (On AM, dial position is as important as power in determining groundwave coverage. A station with only 250 watts at 540 may cover as much area as a station on 1550 with 50,000 watts, with all other conditions constant.)

CMBC-690 Havana, "Radio Progreso", went non-directional, and on Friday nights broadcast "Radio Free Dixie" in English, aimed at blacks in the southern U.S. during the tumultuous period of the '60s.

For a time in the early 1980s Cuban stations on 600 and 1160 relayed the English North American service of Radio Moscow. Because of the severe interference some U.S. stations were temporarily allowed to increase power: WIOD-610 Miami and WSUN-620 Saint Petersburg, both from 5,000 up to 10,000 watts, and WNWS-790 Miami, from 5,000 watts up to 25,000 watts.

The Castro regime also introduced something new to the U.S. which had been known in the old world for decades: jamming on AM. Jammers were set up on 710 and 1140 because WGBS (now WAQI) on 710 and WMIE (now WQBA) on 1140, both Miami, broadcast in Spanish at times, with some anti-communist material.

The 1140 jammer was so strong it could be heard buzzing away in New England every night, and caused problems in Virginia for WRVA.

By the early 1930s, major longwave



stations were already operating in Europe, in Great Britain, in Scandinavia, Germany, Poland, Latvia, Lithuania, France, and Tunisia in North Africa, with a large number in the Soviet Union.

The characteristics of longwave are like the low end of the AM band, 540, 550, etc., except even more extreme, with excellent groundwave coverage day and night.

Longwave was never designated for use in broadcasting in North and South America. It continues to be used in Europe and the area encompassed by the USSR. In this country it is mostly used for Coast Guard and aviation beacons to guide boaters and aviators.

The new radio agreements and rulings do not change the status of longwave for this hemisphere, as far as using them for broadcasting. The stations in the "Old World" are so strong, with very large powers, that they cover large portions of Europe and the Arab world day and night. They also frequently are heard in the U.S., especially the northeast, on skywave, during hours of darkness. Here is a partial listing:

- 153 Germany (500,000 watts); Norway (10,000); Rumania (1,200,000 watts); Algeria (1,000,000)
- 162 France (2,000,000 watts); Turkey (1,000,000); Mongolia (1,000,000)

## Canadian Senior Radio

By JEFFREY ULBRICH

Associated Press Writer

RIDGEWAY, Ontario — Don and Meegan Hildebrand drove from Los Angeles to Toronto, scanning the radio dial all the way, and never found any decent music. A couple of years and an interrupted retirement later came Super Seniors Network.

Great music from the 1920s, '30s and '40s, corny patter, off-color jokes, riddles and brain teasers have resulted in spectacular weekend ratings for CKTB radio in St. Catharines and led to plans for broadcasting across Canada next year.

Forty-seven percent of Canadians are over 50, and 11 percent are over 65, but you'd never know it by listening to the radio, Hildebrand says. Stations spend all their time chasing after kids and advertising agencies are 99 percent controlled by young people who ignore the enormous seniors market, he says.

"They see us as a stereotype: drooling idiots who have bought everything they are going to buy, only moving between the television and the hospital and costing society a fortune," Hildebrand, 60, huffs.

"We keep the restaurant business in business. We own the big cars and have the cash to buy them. We keep the travel industry in business. What would the cruise business be without seniors?"

The Hildebrands, along with 80-year-old Arthur Jolley, started on a rock station, CKTB, with a four-hour Sunday-morning program — a time slot that's "the armpit of radio," Hildebrand says.

They started in February 1989. The Bureau of Broadcast Measurements' first ratings were 500 listeners per quarter-hour. "Three months later we were pulling 4,000 with no advertising and no promotion," says Hildebrand, who has 42 years' experience in broadcasting.

The next six months it doubled to 8,000, and the station manager started to pay attention. Super Seniors now pulls 22,000 listeners in southeastern Ontario on that awful Sunday-morning spot.

The station added an old-time comedy program

- 171 Morocco (2,000,000 watts)
- 180 Germany (2,000,000 watts); Turkey (1,200,000)
- 189 Italy (10,000 watts); Sweden (300,000)
- 198 Great Britain (500,000 watts); Poland (200,000); Algeria (1,000,000); Turkey (120,000)
- 207 Germany (500,000 watts); Iceland (100,000); Morocco (800,000); Jordan (1,200,000); Mongolia (150,000)
- 216 France (1,400,000 watts); Norway (200,000)
- 225 Poland (2,000,000 watts); Mongolia (150,000)
- 234 Luxembourg (2,000,000 watts)
- 243 Denmark (300,000 watts); Turkey (200,000)
- 252 Ireland (500,000 watts); Finland (200,000); Algeria (1,500,000)
- 261 Bulgaria (60,000 watts); Germany (200,000)
- 270 Czechoslovakia (1,500,000 watts)
- 279 Minsk, Byelorussia (500,000 watts)

Plus approximately 60 stations in the area of the USSR on these channels. They provide news, music and other entertainment and information.

with tapes from Amos 'n' Andy shows, Jack Benny and Red Skelton. It followed that with "Make-Believe Ballroom," which features bands and soloists, extending through the afternoon. The seniors programming became so popular it moved into Saturday with the "Dancing Days" show. Now, practically the entire weekend is filled with old-timer's fare.

Jolley brings firsthand history and anecdotes and contributes to the conversational chatter on a range of subjects of interest to older audiences. A former builder who spent 10 years in the Ontario Legislature, Jolley was "quite a bon vivant in the old days, a wonderful man," Hildebrand says.

Mrs. Hildebrand, who won't reveal her age, chooses all the music.

Born in California to a show business family, she describes herself as "the original Valley Girl." Though she learned to dance at 3 and traveled in a vaudeville act with her family, she was new to radio in 1969.

On the radio, the Hildebrands are protective of their audience.

"We don't want our listeners subjected to any scams," Mrs. Hildebrand says. "We will not run an ad until we are sure it is what it says it is."

Each insurance company, banking service, even restaurant, is personally checked out by Hildebrand. Consequently, listeners have an enormous amount of trust in the trio.

The Hildebrands can provide a full weekend of seniors programming for any radio station that wants it — it can even be adapted to an American audience, he says. They have a federal license to network programs by satellite, and the goal is to provide 40 hours a week. By spring, the Hildebrands hope to be broadcasting in every major market in Canada.

But that's too big a job for CKTB. "We're hard at work on completing our own studios and when they're done, look out Charlie Brown, here come the seniors all across Canada."

*The Winchester Star*  
— via Perry Crabill, Jr.

## Musings

### of the Members

Dave Schmidt

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*Times are local per MUSE; submit double-spaced only. Thoughts from NRC members ... the opinions expressed in this column are those of the individual writer and do not necessarily reflect those of the editors, publishers, or the National Radio Club, Inc.*

RON BAILEY (AA4S) - 420 COMMUNITY ROAD - SHELBY, NC 28152

Hello to all. As a brand new member (May 92), I hope to contribute my fair share of information to what appears to be a well-run club of dedicated individuals. My interest in Medium Wave AM DXing was sparked around 1952 (age 13) when I began tinkering with my parent's old Stromberg-Carlson radio. I was in Haddon Heights, NJ at the time and managed to log 414 North American stations in about 5 years using a simple wire antenna. Years passed (college, service, etc.), then in 1978, my job required me to move to NC. I found a quiet radio location with some land on which to install beverages for 160 meter amateur radio contesting. I logged a few AM stations during my years here but time was taken mostly with work, hamming & coaching. This April, wet weather halted most outdoor activities, I started listening/logging in earnest. At first, I was using a DX400 but purchased an ICOM IC-763 on 5/2. Then the fun began! I've logged 407 US & Canadian stations since 4/18 using several terminated beverages. There appears to be no end to GOS/REL formatted stations in this area which serve as cannon fodder for padding ones totals—hi! I would be glad to assist anyone who might be trying to ID some of these. Hope to see you all in Omaha. Very 73! (Welcome, Ron, and thank you for your report, we trust you will check in with your DX deings from NC on a regular basis!—DWS)

DAVID F. GLEASON - 10977 BLUFFSIDE DRIVE #1410 - STUDIO CITY, CA 91604

Hi! Although I am not actively DXing, I am at least closer to AM radio than I have been for quite a few years. In February, I moved to take a position as VP of Operations for KKHJ-930, LA 6 a related position for sister station KWIZ-1480 Anaheim. Both stations are in Spanish and part of my functions are acting as PD. I am going to be shopping for a receiver in the next month or so, probably a new Icom R71 or the JRD. If there is any interest, I have just received an updated listing of all commercial stations in Mexico, as we look quite carefully at what is going on in radio there since we program to the over 4.5 million Hispanics in the LA metro, 90% of which are of Mexican origin. I'm also rather curious to see if I can log any of the NZ & Australian stations that seem to make it here! So, this makes my 33rd YEAR in the NRC (more or less continuous) while living in Cleveland, OH; Mexico City; Quito, Ecuador; Puerto Rico; Miami & now, CA. By the way, DX reports to KKHJ (the old KHJ) can be addressed to me at 5724 Hollywood Blvd., Hollywood, CA 90028. (And a welcome back to the fold, David, and the best with your new position! Keep in touch!—DWS)

GEORGE PHILLIPS - 1100 DAKE TREE AVE., APT. N8 - NORMAN, OK 73072-8061

Since this is my 1st MUSE, an introduction is in order. I am an instructor at the NEXRAD Radar Training Facility here in Norman and teach the section of the course that deals with severe thunderstorm warning & detection. I have been an instructor since December and the incredible amount of work associated with the job has kept my DXing to a minimum. Before moving here, I was a meteorologist/forecaster with the National Weather Service in Minneapolis, MN. My interest in BCB DXing began in 1963 when I was given a GE portable radio on Christmas Eve. I stayed up all that night listening to stations from all over the country. That radio introduced me to popular music & sports, both of which have become lifelong interests. When my high quality Sony portable was stolen in 1979, I saved up enough money to buy a Panasonic RF2200 demo that was on sale for \$105 not having a clue this radio was destined to be a classic. That radio peaked my interest in SW DXing and was my main radio until the whip antenna broke in 1990. When the Gulf situation heated up late that summer, I bought a Monitoring Times for a list of frequencies. The advertisements for all the high tech radios had me drooling and I had enough money to buy a Sony ICF2010. This great radio has served me well for the last 2 years but during that time, I became a member of several clubs and a subscriber to several magazines and my interest in communications receivers increased accordingly. After reading every review I could get my hands on, it came down to a decision between a highly modified Icom R71A and a Drake AB. I chose the R\* because of the reviewers' praise of its high quality audio (I've been doing more listening than DXing lately). I couldn't be happier. Having played with it for 2 months, I agree with every praise & criticism contained in the RDI White Paper on the AB. Spinning the BCB dial down here is very different than up north. I have great difficulty getting any Canadian stations but stations that broadcast in Spanish are all over the dial. I guess I'll have to learn Spanish! But most important, I can still get WCCO-830 most of the time at night so I can hear quite a few TWIN's games. I've been a member of the NRC for a year now and have learned a lot. I especially enjoy the MUSINGS, reports on DXpeditions, technical articles and reprints on receivers and propagation. I hope to have more time for DXing next winter. 73 (And a welcome to the NRC to you, George, please check in often!—DWS)



DDN TRELFOOD, 20 GUILDWOOD PKWY, APT. 1104 - SCARBOROUGH, ON M1E 5B6  
 Since conditions have been so bad the past few weeks or so, I have found time to write up a new MUSING. Also, of course, it is at the end of another DX season, though I DX year round! I added another 2 states, ME & ND & 1 more country, Cuba and made 1 or 2 more new graveyard achievements. Also have gotten a few more DX specials than the previous season (mainly because they were not on the past frequencies here). On the down side, only for DXing though, was a move to a condominium and the attendant antenna problems, which are still plaguing me. Got an MFJ indoor active antenna and from salvaged wire from my previous location, have a primitive (very) loop (wire is strung between 2 old time curtain rods & put out each night over my recessed balcony). There was a period in November and again lately when we had sunspots or some other catastrophe. Veries are coming in slowly, average 2 per week, against maybe 5 reports sent out. It is also in order to thank CHARLES REH, KERMIT GEARY & MORRIS SORENSON & ERC for help in IDing stations during the season. Veries now total 295 (plus 718 from 41-49) 73

DAVE SCHMIDT - P. O. BOX 11502 - WILMINGTON, DE 19850-1502

Hopefully, by the time this hits print, I will have the CE duties at WVCH-740 as they were expressing an interest when their CE left recently. Additionally, an interest was expressed by WAKE-101.7 Ocean View, DE so maybe things will pan out from that, we went from very busy to the lots of work with no-pay situation (I'm sure anyone in business for themselves is familiar with that - SASE for a list-hi!). In a recent drive-thru of the Norfolk area, we noted 1050-1110 & 1550 silent. FM DX has been taking up our time with some fine tropo & E Skip openings this past month. It was interesting to note that the Maysack, NC station on 92.1 was running GOS/REL via standard phone line, no special line quality at all! Really sounded (Fill in the blank-hi!). We'd be interested in hearing from those who also swing over to the FM side in the summer, letting us know what your listening with, best catches, etc. Our FM set-up includes an Onkyo TS090 and the 9 element Radio Shack beam (discontinued a few years back). We were using a Stereo Probe 9 but it was broken when the mast went over in a storm. The "Name out of the Past" Department: JOHN T. ARTHUR. His name is surfacing again (and has been for about 10 years) as the editor of the "Veried Response" column in "THE ACE". I believe John was a member of the NRC back in the 60's, as I've been keeping on/off contact with him since 66 or so. Our next deadline is JULY 18th (always 7 days prior to the published deadline for Topeka). An announcer at WVSJ-1360 who lives a short distance from WFI-1460 Florence, NJ reports they are still not on as of 6/19 but he did catch an ET from there about 2 months ago. That's it, CUN4 (weeks!) 73

TOWER TIP		WAKY-790 5KW/1KW LOUISVILLE, KY	
		I-265	
I-64			I-64
Tucker Station Road		WAKY-790 * * *	I-265
Rte 155 (Taylorsville Road)			Rte 155
WHAT TO LOOK FOR: The four WAKY towers shown above are visible from I-64 and I-265 as well as the local roads.			
CONTRIBUTED BY: Dick Truax, Louisville, KY			

### The Broadcaster's Guide to DX

A tri-fold guide for use with reception reports explaining DX'ing, how the NRC was formed, and the importance of QSL's to DX'ers. Also in Spanish and French. US\$1.50 for 20. From NRC Publications. (NY residents, add sales tax)

## NRC DXCon - '92 in Omaha

Registrations are arriving for the "Big O", NRC Convention in Omaha, NE. If you are interested in sharing a room with another DX'er or want to carpool to Omaha, contact host Ernie J. Wesolowski - 13312 Westwood Lane - Omaha, NE 68144-3543. The registration fee is \$40 including two meals. Make your check payable to "National Radio Club". Hotel reservations go to Days Inn - 3001 Chicago St. - Omaha, NE 68131, phone (402) 345-2222. You must mention the "NRC Convention" to receive the special rate of \$46.00 plus \$7.52 tax per night. Registration deadline is August 11!

So far, about half are arriving on Thursday evening, September 3. Yes, Ernie Cooper has registered! Lots of auction items and door prizes are planned. We'll need your phone number for a security check for one of our tours. KNRC-AM 640, KNRC-FM 99.3, and KNRC-TV 4 will be there; bring your portable radio and TV. Brush up on all Nebraska stations for the quiz. You will talk a long time with your prize. Send or bring auction items any time, postpaid to the host.

Tours and two main meals are in the works along with a guest speaker. BYOB; beer and pop provided. Good Amtrak service is available from Chicago and Denver. Same for airlines with a free shuttle (7:00 am to 10:30 pm to Days Inn). See you over Labor Day weekend in Omaha! -The Big O Team: Ernie, Bob, Carl, Curne, Dan, Mike, Neil, and Skip.

### The NRC is growing - and you can help.

More members in the NRC means a larger DX News ... and more features and services for all members. You can help your club grow: just send the names and addresses of potential club members to the NRC - P. O. Box 5711 - Topeka, KS 66605 and we'll send them a current copy of DX News. Spread the word - the National Radio Club is on the grow!